

Pantheon Report

Generated at 2018-09-07 12:32:16 (UTC).
Data path: GCE Iowa on `ens4` (*remote*) → GCE Sydney on `ens4` (*local*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

System info:

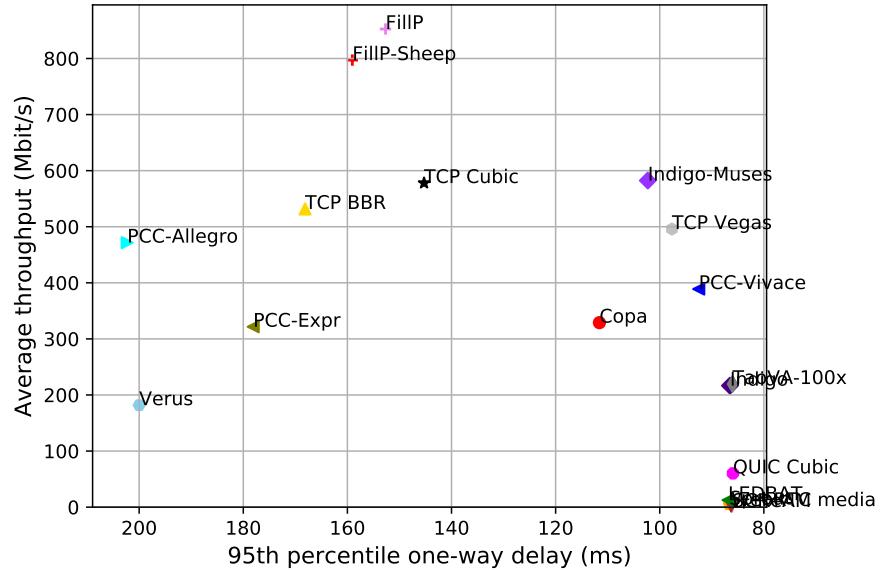
```
Linux 4.15.0-1018-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 190986 254651 381972
```

Git summary:

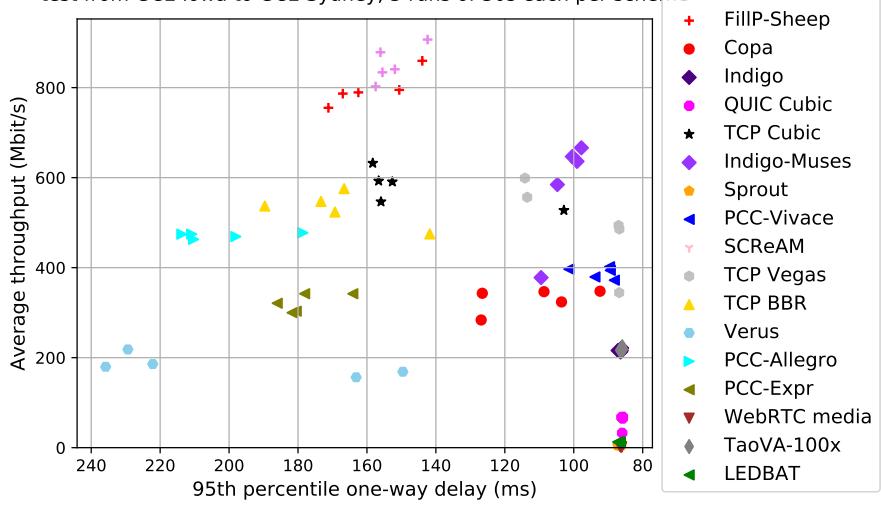
```
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3
third_party/pantheon-tunnel @ cbfce6db5ff5740dafe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from GCE Iowa to GCE Sydney, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from GCE Iowa to GCE Sydney, 5 runs of 30s each per scheme



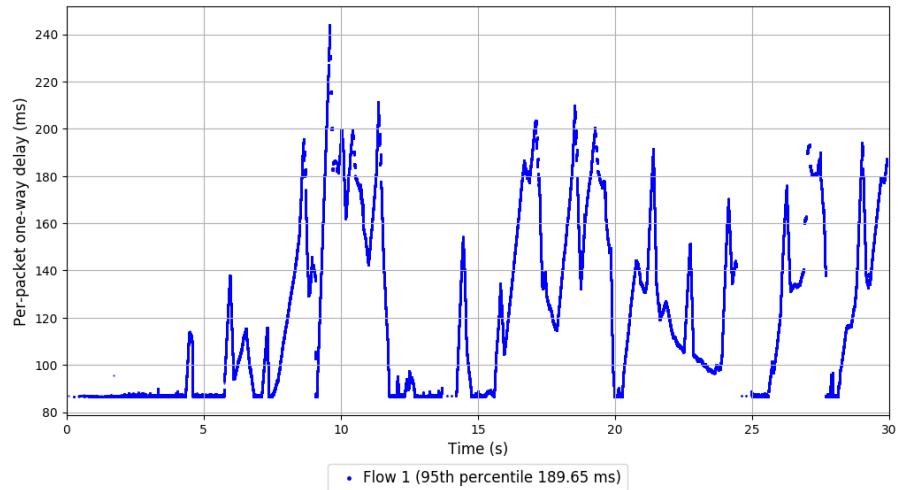
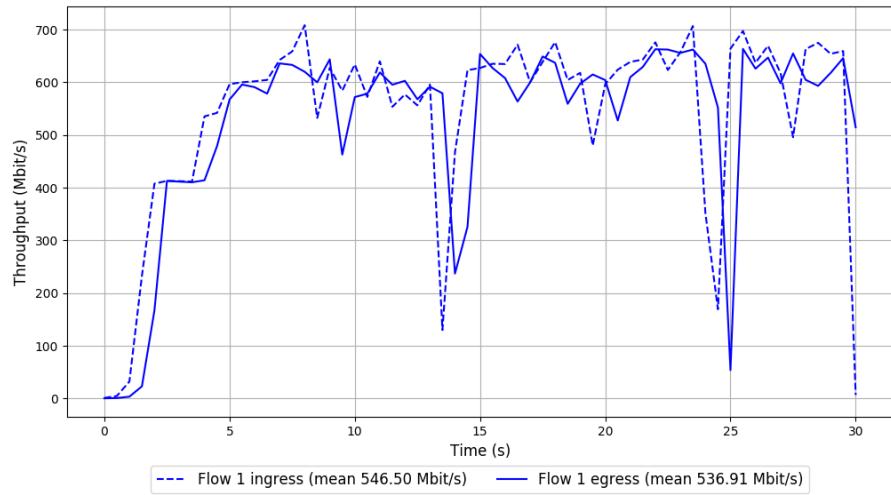
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	531.69	168.13	1.58
Copa	5	328.99	111.59	0.61
TCP Cubic	5	577.91	145.27	0.75
FillP	5	852.55	152.68	3.43
FillP-Sheep	5	797.16	159.05	4.54
Indigo	5	216.62	86.52	0.55
LEDBAT	5	12.52	86.88	1.15
Indigo-Muses	5	582.38	102.30	0.70
PCC-Allegro	5	471.65	202.29	3.46
PCC-Expr	5	321.66	178.10	2.47
QUIC Cubic	5	60.21	85.94	0.80
SCReAM	5	0.22	86.09	0.61
Sprout	5	4.51	86.65	0.56
TaoVA-100x	5	219.52	86.03	0.63
TCP Vegas	5	495.88	97.65	0.63
Verus	5	181.82	200.00	6.00
PCC-Vivace	5	388.88	92.51	0.70
WebRTC media	5	1.90	86.27	0.68

Run 1: Statistics of TCP BBR

```
Start at: 2018-09-07 09:05:01
End at: 2018-09-07 09:05:31
Local clock offset: 24.42 ms
Remote clock offset: 25.227 ms

# Below is generated by plot.py at 2018-09-07 11:15:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 536.91 Mbit/s
95th percentile per-packet one-way delay: 189.649 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 536.91 Mbit/s
95th percentile per-packet one-way delay: 189.649 ms
Loss rate: 2.32%
```

Run 1: Report of TCP BBR — Data Link

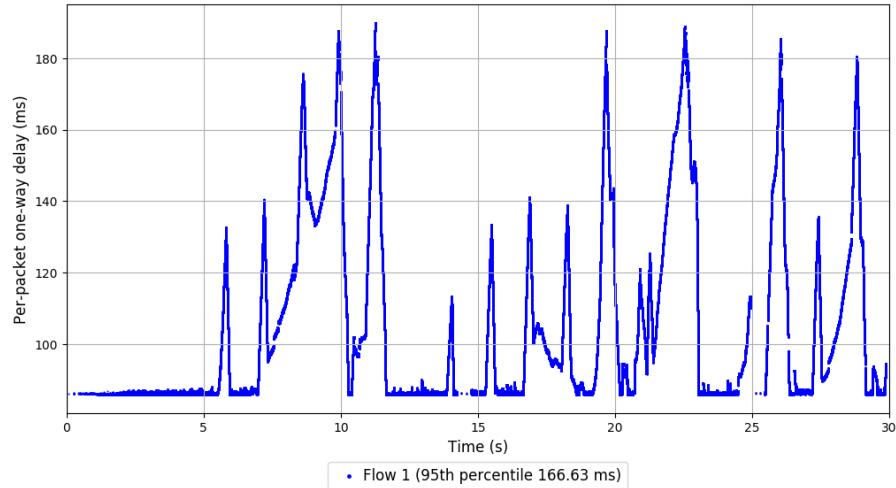
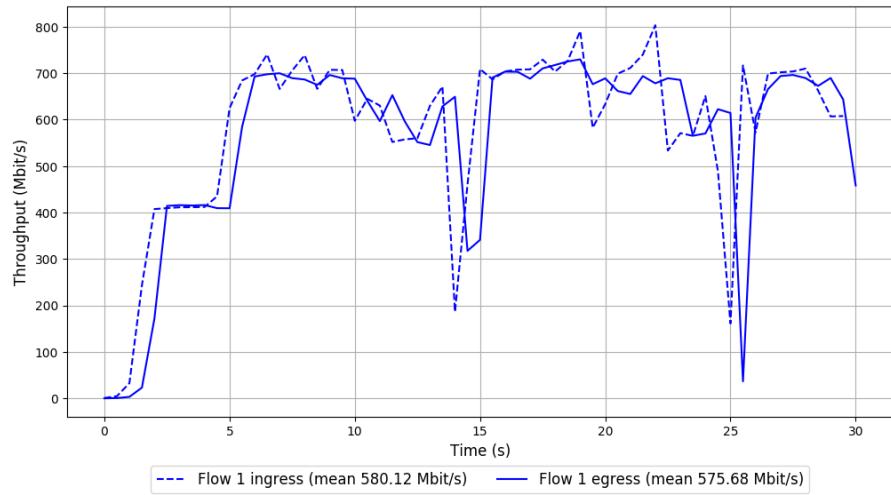


Run 2: Statistics of TCP BBR

```
Start at: 2018-09-07 09:31:43
End at: 2018-09-07 09:32:13
Local clock offset: 9.866 ms
Remote clock offset: 18.354 ms

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 575.68 Mbit/s
95th percentile per-packet one-way delay: 166.628 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 575.68 Mbit/s
95th percentile per-packet one-way delay: 166.628 ms
Loss rate: 1.34%
```

Run 2: Report of TCP BBR — Data Link

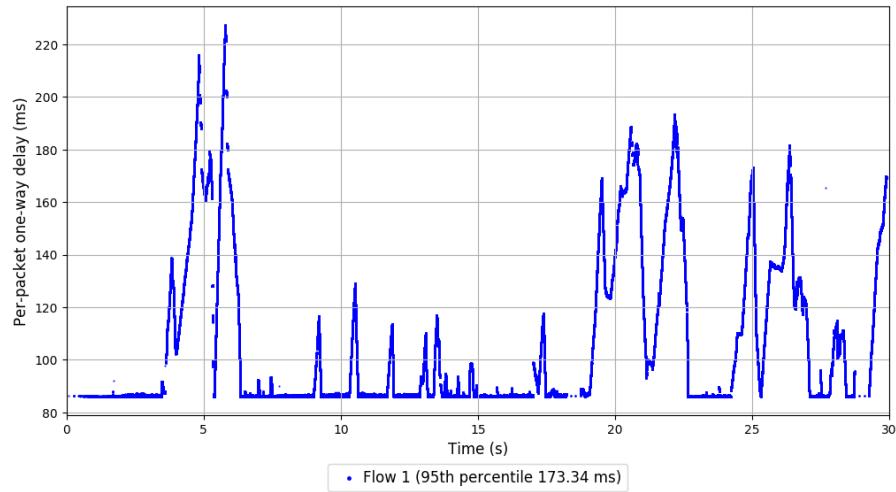
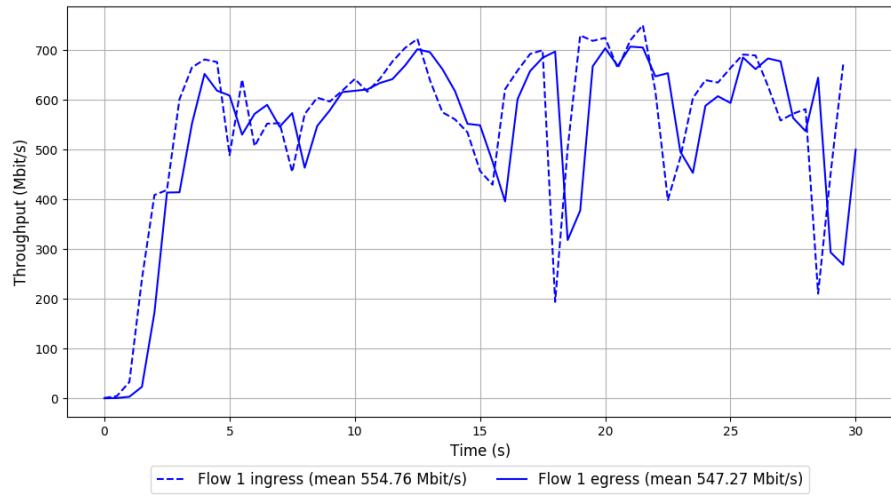


Run 3: Statistics of TCP BBR

```
Start at: 2018-09-07 09:58:19
End at: 2018-09-07 09:58:49
Local clock offset: 3.692 ms
Remote clock offset: 7.564 ms

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 547.27 Mbit/s
95th percentile per-packet one-way delay: 173.343 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 547.27 Mbit/s
95th percentile per-packet one-way delay: 173.343 ms
Loss rate: 1.92%
```

Run 3: Report of TCP BBR — Data Link

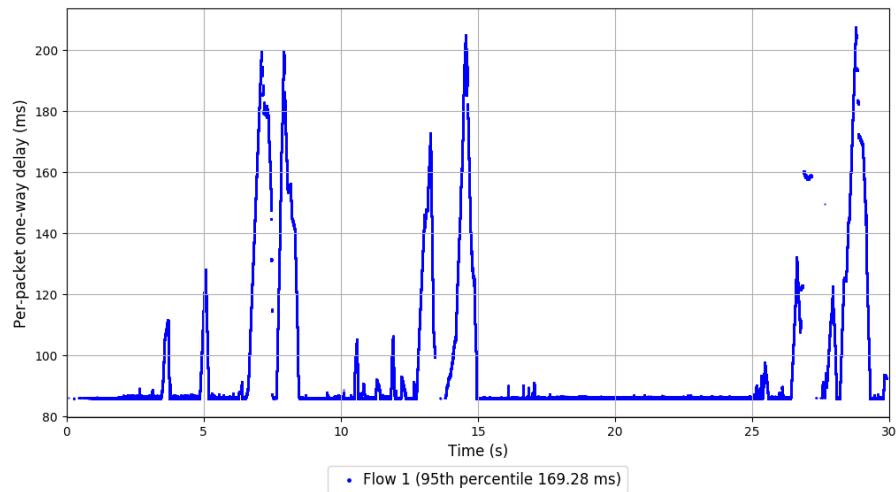
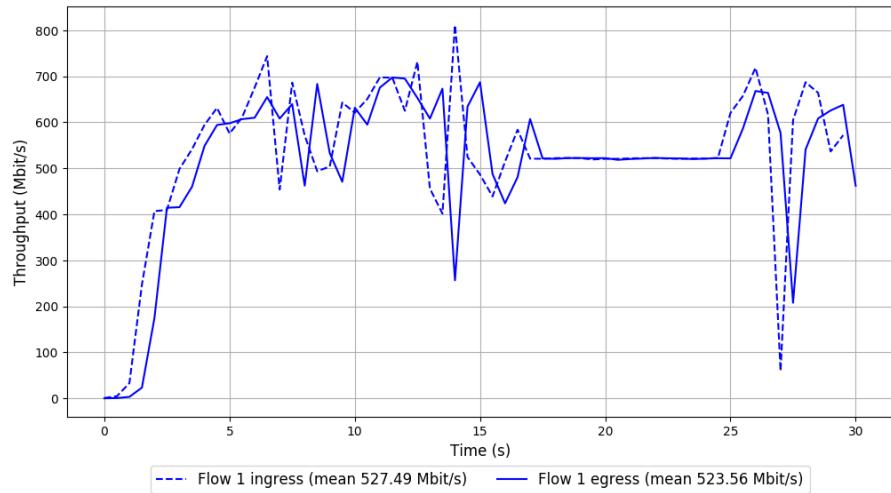


Run 4: Statistics of TCP BBR

```
Start at: 2018-09-07 10:24:39
End at: 2018-09-07 10:25:09
Local clock offset: 1.497 ms
Remote clock offset: 3.455 ms

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 523.56 Mbit/s
95th percentile per-packet one-way delay: 169.275 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 523.56 Mbit/s
95th percentile per-packet one-way delay: 169.275 ms
Loss rate: 1.32%
```

Run 4: Report of TCP BBR — Data Link

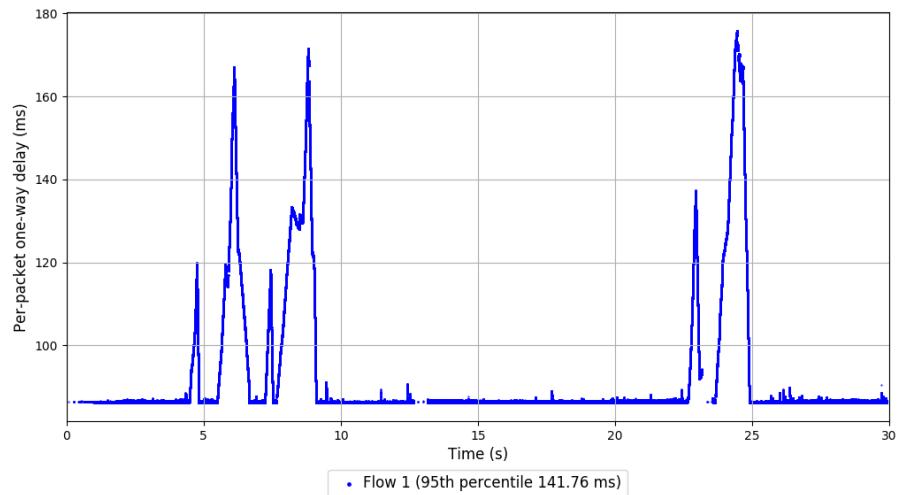
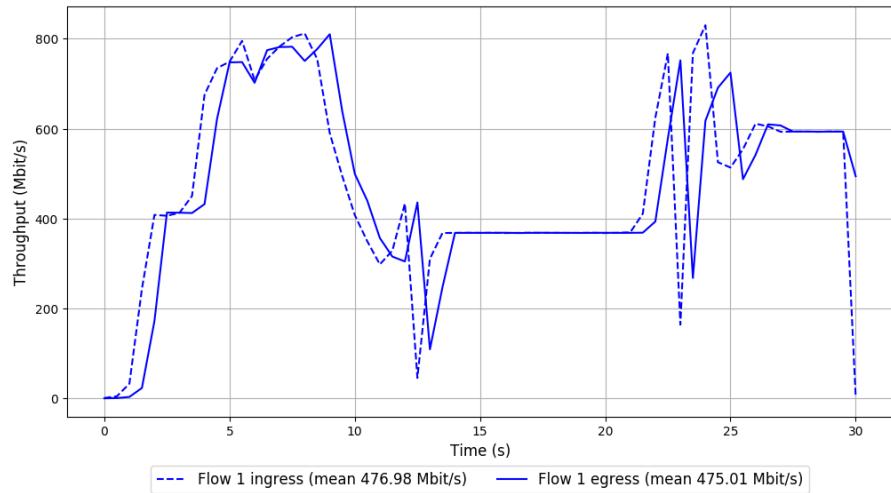


Run 5: Statistics of TCP BBR

```
Start at: 2018-09-07 10:51:20
End at: 2018-09-07 10:51:50
Local clock offset: 1.019 ms
Remote clock offset: 1.903 ms

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 475.01 Mbit/s
95th percentile per-packet one-way delay: 141.761 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 475.01 Mbit/s
95th percentile per-packet one-way delay: 141.761 ms
Loss rate: 0.99%
```

Run 5: Report of TCP BBR — Data Link

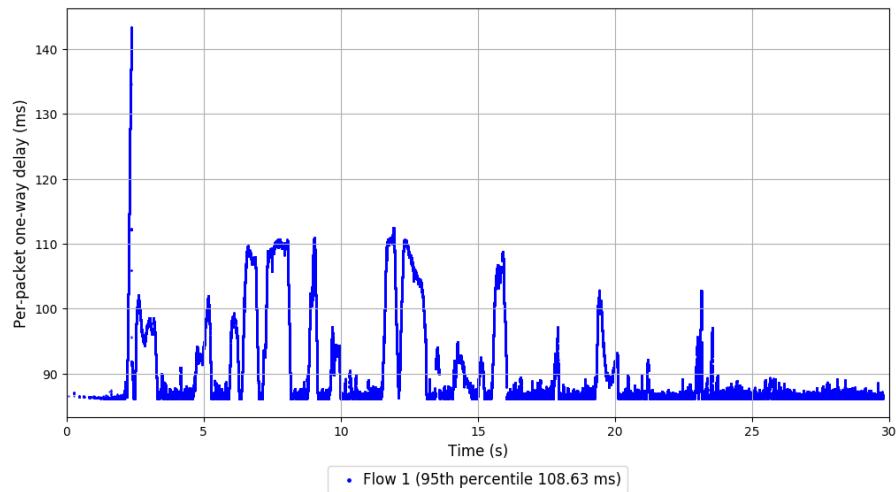
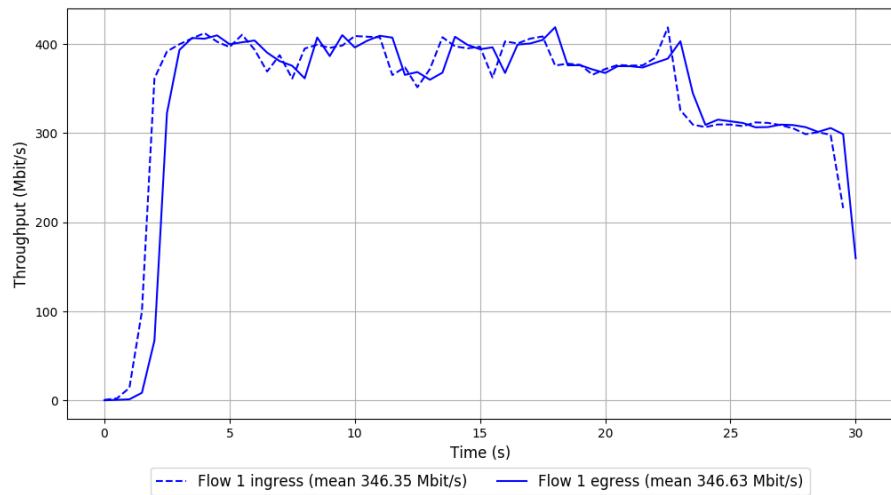


Run 1: Statistics of Copa

```
Start at: 2018-09-07 08:44:31
End at: 2018-09-07 08:45:01
Local clock offset: 24.737 ms
Remote clock offset: 23.616 ms

# Below is generated by plot.py at 2018-09-07 11:17:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 346.63 Mbit/s
95th percentile per-packet one-way delay: 108.633 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 346.63 Mbit/s
95th percentile per-packet one-way delay: 108.633 ms
Loss rate: 0.50%
```

Run 1: Report of Copa — Data Link

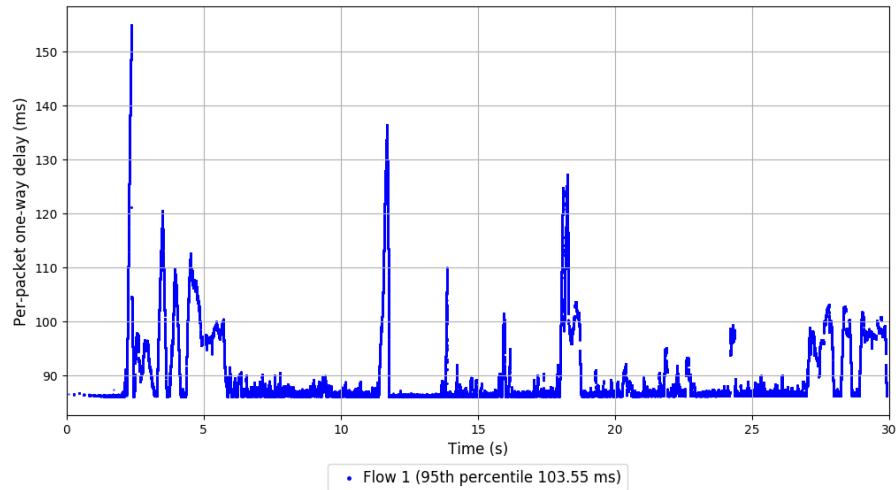
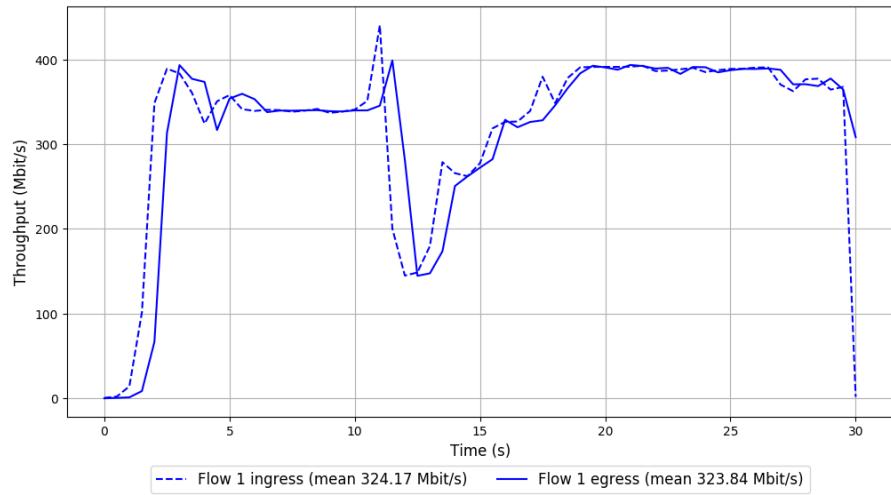


Run 2: Statistics of Copa

```
Start at: 2018-09-07 09:10:54
End at: 2018-09-07 09:11:24
Local clock offset: 14.522 ms
Remote clock offset: 17.144 ms

# Below is generated by plot.py at 2018-09-07 11:17:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 323.84 Mbit/s
95th percentile per-packet one-way delay: 103.553 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 323.84 Mbit/s
95th percentile per-packet one-way delay: 103.553 ms
Loss rate: 0.68%
```

Run 2: Report of Copa — Data Link

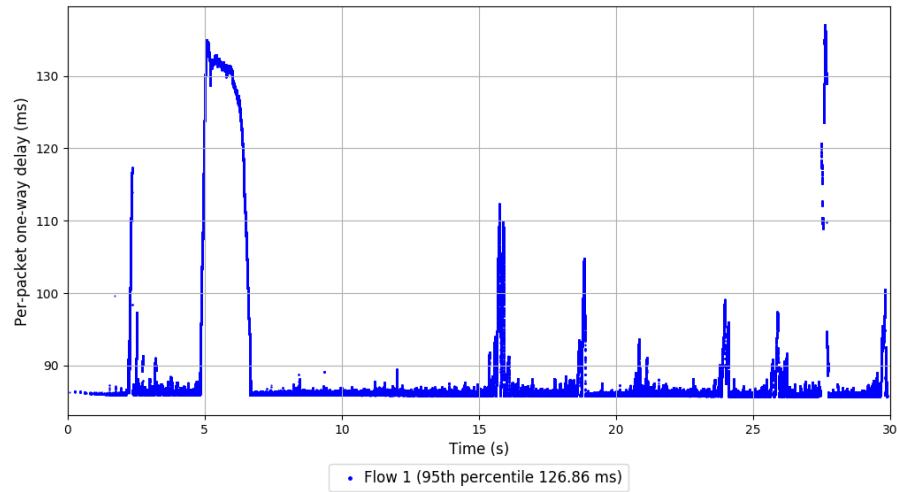
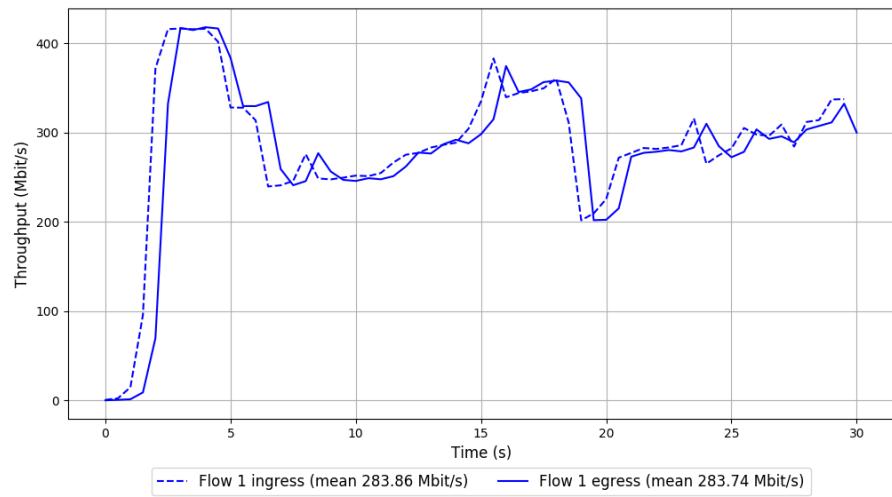


Run 3: Statistics of Copa

```
Start at: 2018-09-07 09:37:33
End at: 2018-09-07 09:38:03
Local clock offset: 7.527 ms
Remote clock offset: 14.576 ms

# Below is generated by plot.py at 2018-09-07 11:17:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 283.74 Mbit/s
95th percentile per-packet one-way delay: 126.861 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 283.74 Mbit/s
95th percentile per-packet one-way delay: 126.861 ms
Loss rate: 0.62%
```

Run 3: Report of Copa — Data Link

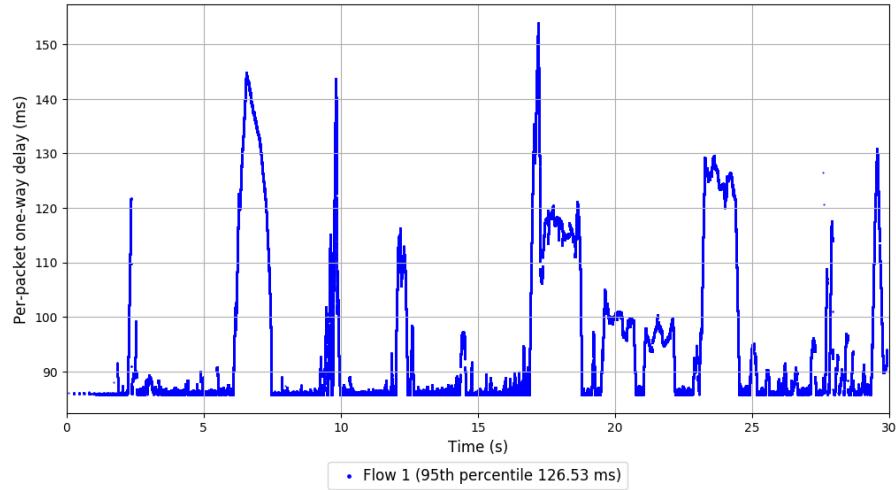
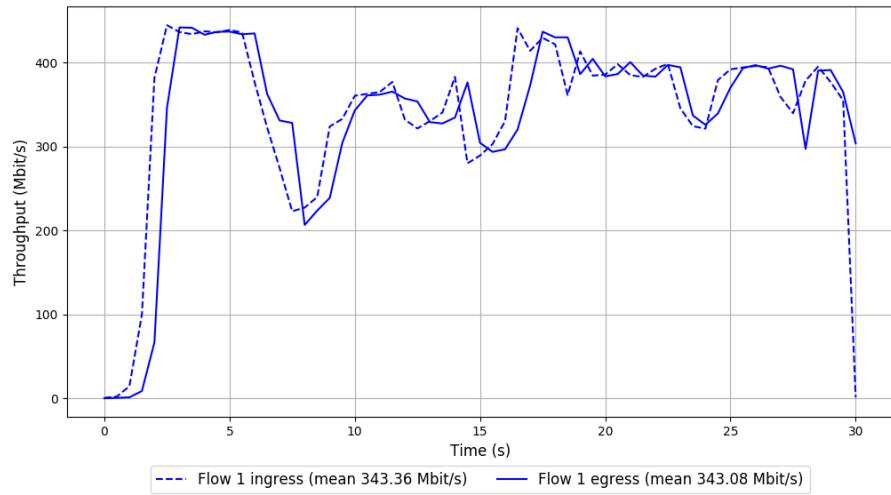


Run 4: Statistics of Copa

```
Start at: 2018-09-07 10:04:01
End at: 2018-09-07 10:04:31
Local clock offset: 3.953 ms
Remote clock offset: 8.531 ms

# Below is generated by plot.py at 2018-09-07 11:25:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 343.08 Mbit/s
95th percentile per-packet one-way delay: 126.531 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 343.08 Mbit/s
95th percentile per-packet one-way delay: 126.531 ms
Loss rate: 0.65%
```

Run 4: Report of Copa — Data Link

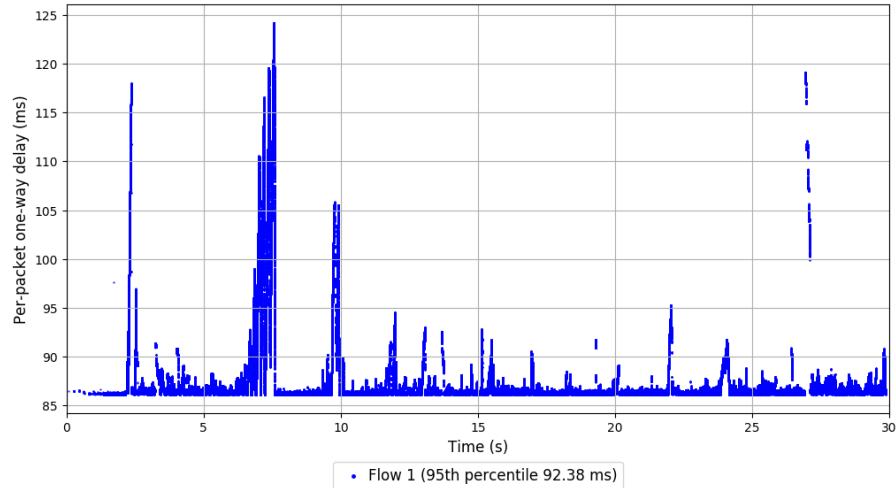
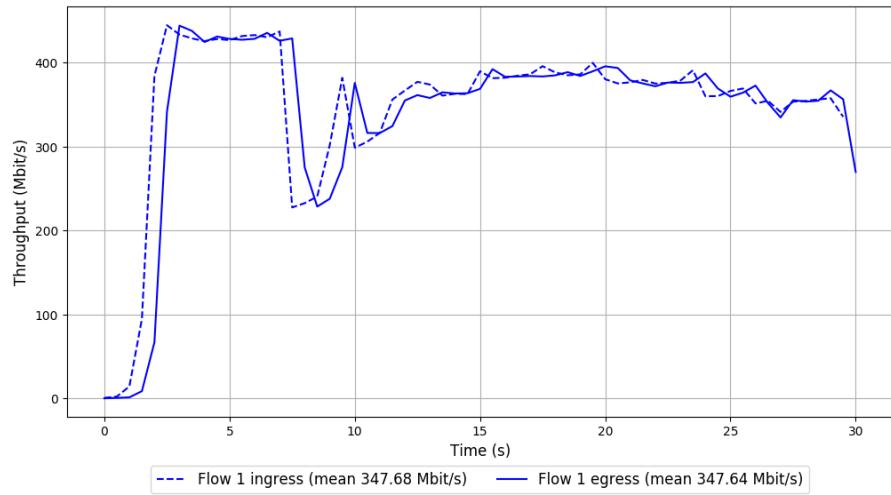


Run 5: Statistics of Copa

```
Start at: 2018-09-07 10:30:30
End at: 2018-09-07 10:31:00
Local clock offset: 1.608 ms
Remote clock offset: 3.5 ms

# Below is generated by plot.py at 2018-09-07 11:26:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 347.64 Mbit/s
95th percentile per-packet one-way delay: 92.377 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 347.64 Mbit/s
95th percentile per-packet one-way delay: 92.377 ms
Loss rate: 0.59%
```

Run 5: Report of Copa — Data Link



```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-09-07 09:03:25
```

```
End at: 2018-09-07 09:03:55
```

```
Local clock offset: 28.519 ms
```

```
Remote clock offset: 29.033 ms
```

```
# Below is generated by plot.py at 2018-09-07 11:26:02
```

```
# Datalink statistics
```

```
-- Total of 1 flow:
```

```
Average throughput: 546.45 Mbit/s
```

```
95th percentile per-packet one-way delay: 155.932 ms
```

```
Loss rate: 0.85%
```

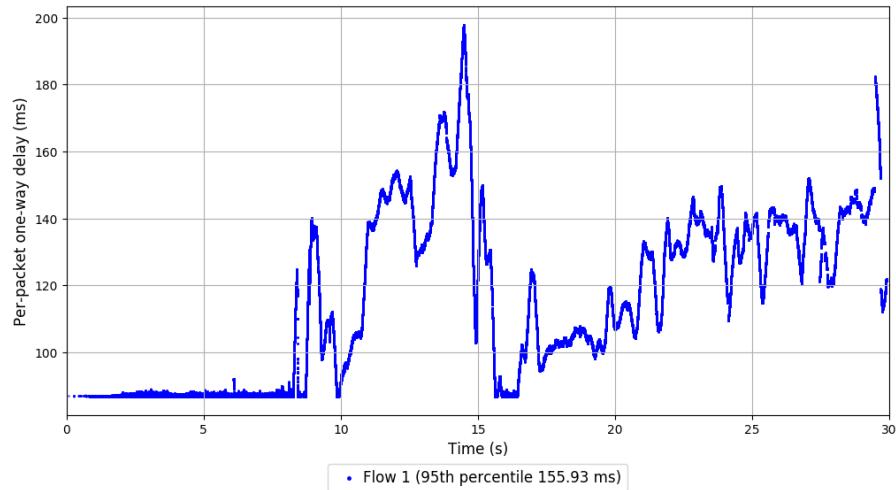
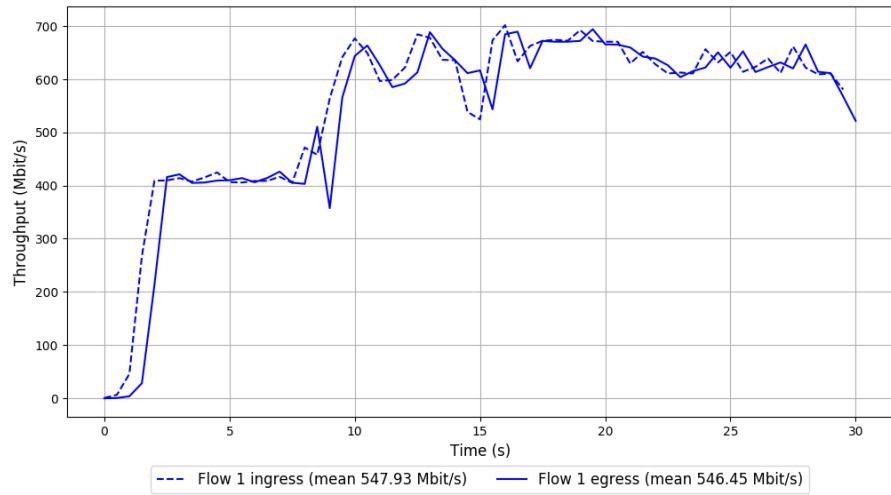
```
-- Flow 1:
```

```
Average throughput: 546.45 Mbit/s
```

```
95th percentile per-packet one-way delay: 155.932 ms
```

```
Loss rate: 0.85%
```

Run 1: Report of TCP Cubic — Data Link

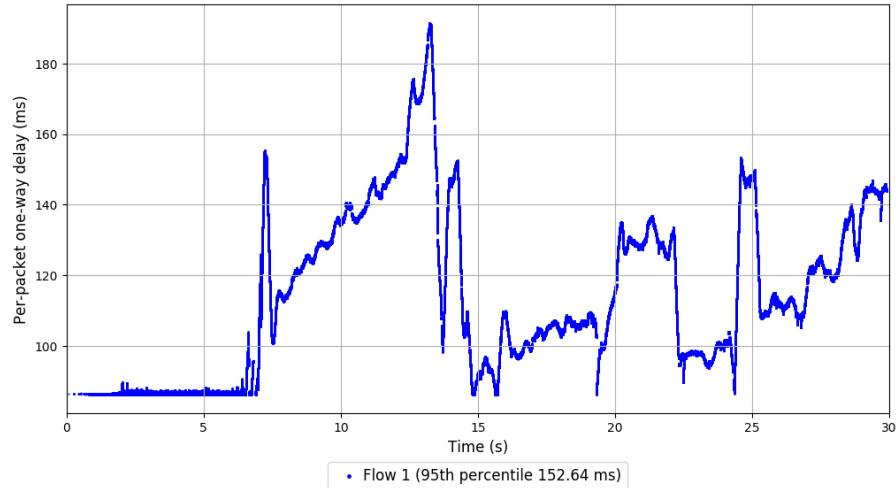
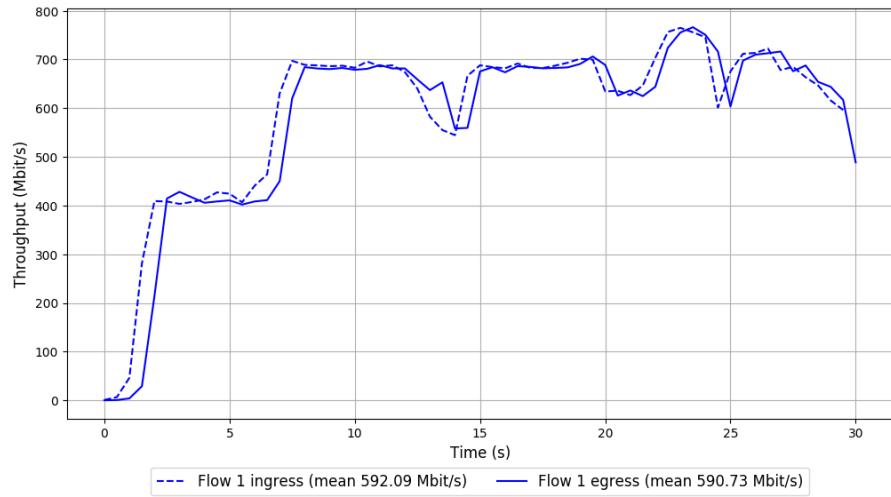


Run 2: Statistics of TCP Cubic

```
Start at: 2018-09-07 09:30:05
End at: 2018-09-07 09:30:35
Local clock offset: 9.532 ms
Remote clock offset: 17.685 ms

# Below is generated by plot.py at 2018-09-07 11:26:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 590.73 Mbit/s
95th percentile per-packet one-way delay: 152.637 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 590.73 Mbit/s
95th percentile per-packet one-way delay: 152.637 ms
Loss rate: 0.80%
```

Run 2: Report of TCP Cubic — Data Link

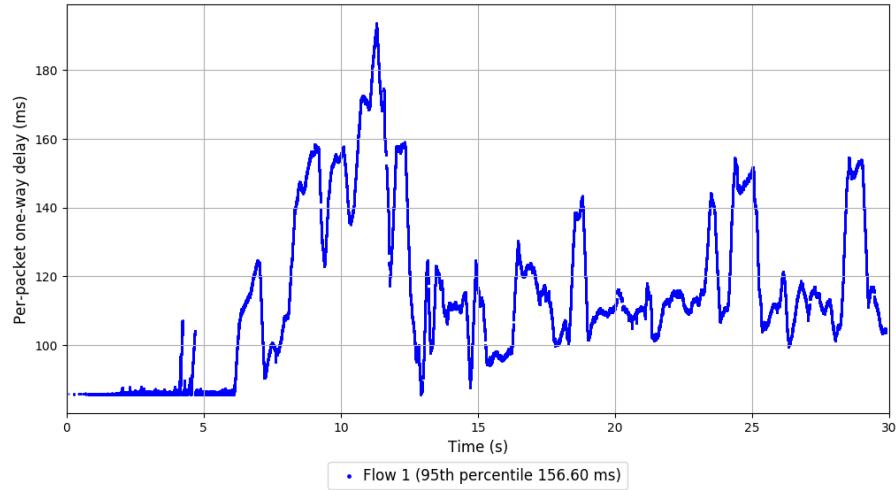
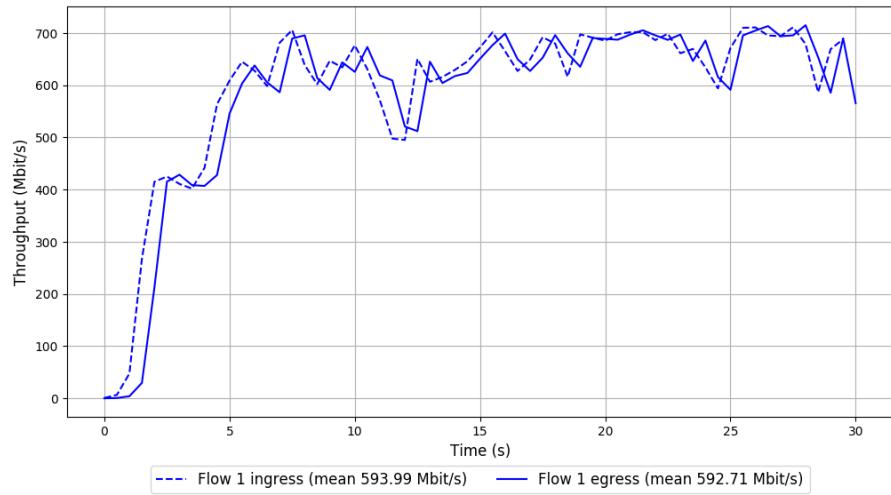


Run 3: Statistics of TCP Cubic

```
Start at: 2018-09-07 09:56:40
End at: 2018-09-07 09:57:10
Local clock offset: 3.272 ms
Remote clock offset: 7.371 ms

# Below is generated by plot.py at 2018-09-07 11:26:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 592.71 Mbit/s
95th percentile per-packet one-way delay: 156.605 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 592.71 Mbit/s
95th percentile per-packet one-way delay: 156.605 ms
Loss rate: 0.79%
```

Run 3: Report of TCP Cubic — Data Link

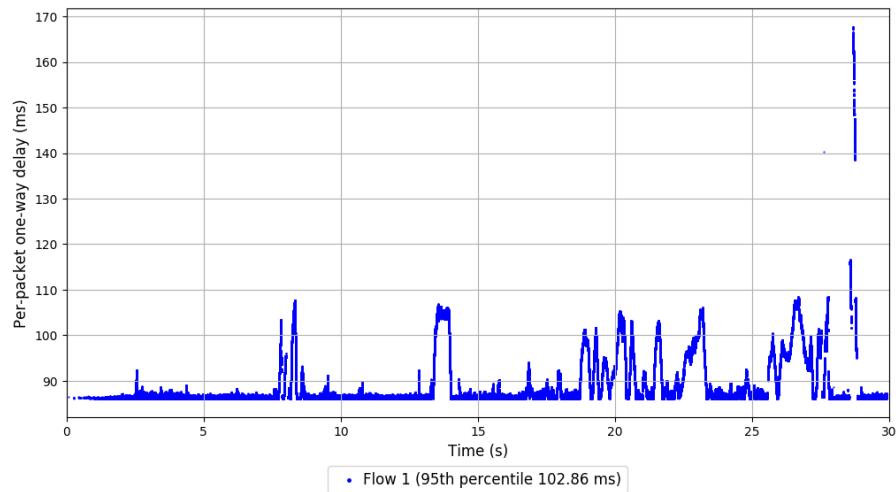
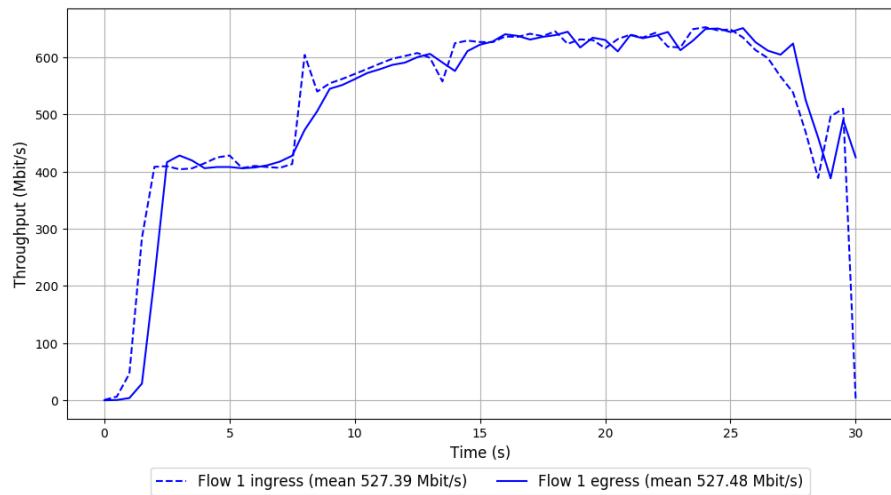


Run 4: Statistics of TCP Cubic

```
Start at: 2018-09-07 10:23:04
End at: 2018-09-07 10:23:34
Local clock offset: 1.615 ms
Remote clock offset: 3.547 ms

# Below is generated by plot.py at 2018-09-07 11:26:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 527.48 Mbit/s
95th percentile per-packet one-way delay: 102.864 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 527.48 Mbit/s
95th percentile per-packet one-way delay: 102.864 ms
Loss rate: 0.56%
```

Run 4: Report of TCP Cubic — Data Link

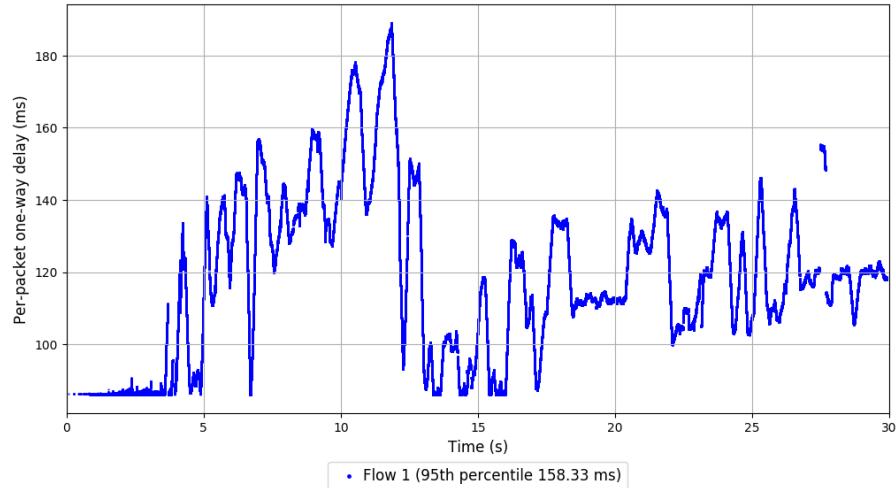
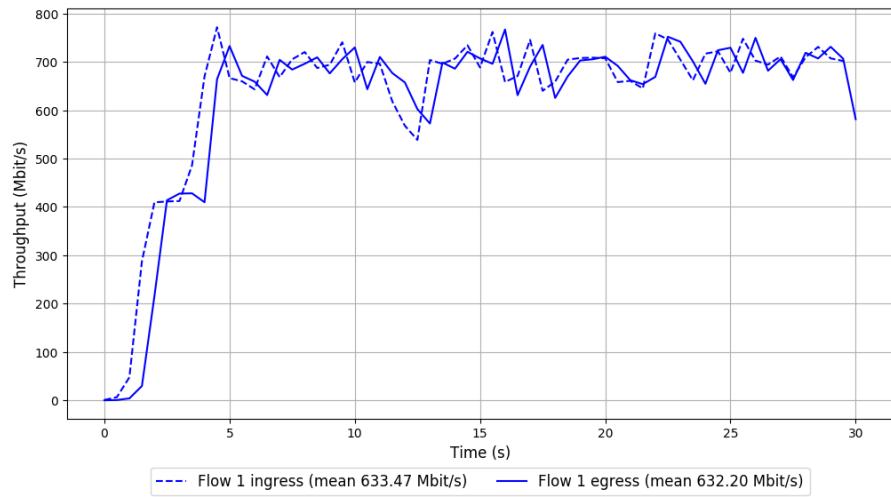


Run 5: Statistics of TCP Cubic

```
Start at: 2018-09-07 10:49:40
End at: 2018-09-07 10:50:10
Local clock offset: 1.371 ms
Remote clock offset: 2.195 ms

# Below is generated by plot.py at 2018-09-07 11:27:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 632.20 Mbit/s
95th percentile per-packet one-way delay: 158.326 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 632.20 Mbit/s
95th percentile per-packet one-way delay: 158.326 ms
Loss rate: 0.77%
```

Run 5: Report of TCP Cubic — Data Link

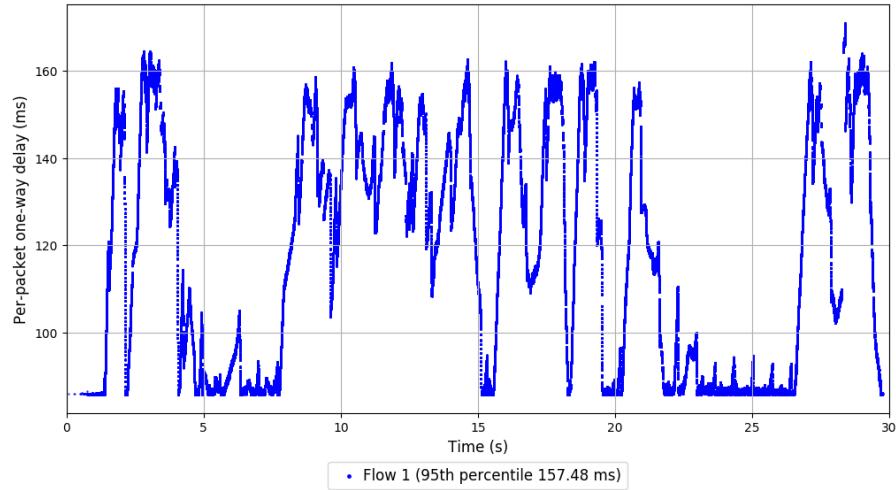
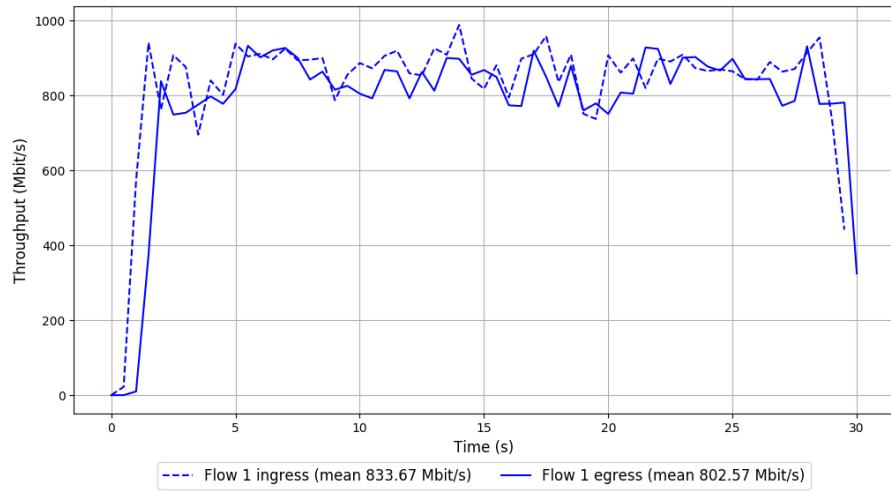


```
Run 1: Statistics of FillP
```

```
Start at: 2018-09-07 08:50:41
End at: 2018-09-07 08:51:11
Local clock offset: 30.435 ms
Remote clock offset: 29.029 ms

# Below is generated by plot.py at 2018-09-07 11:32:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 802.57 Mbit/s
95th percentile per-packet one-way delay: 157.479 ms
Loss rate: 4.28%
-- Flow 1:
Average throughput: 802.57 Mbit/s
95th percentile per-packet one-way delay: 157.479 ms
Loss rate: 4.28%
```

Run 1: Report of FillP — Data Link

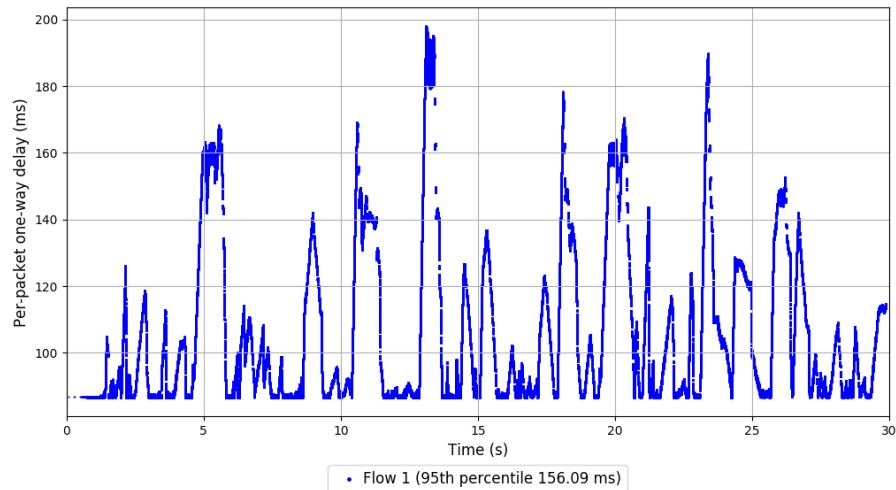
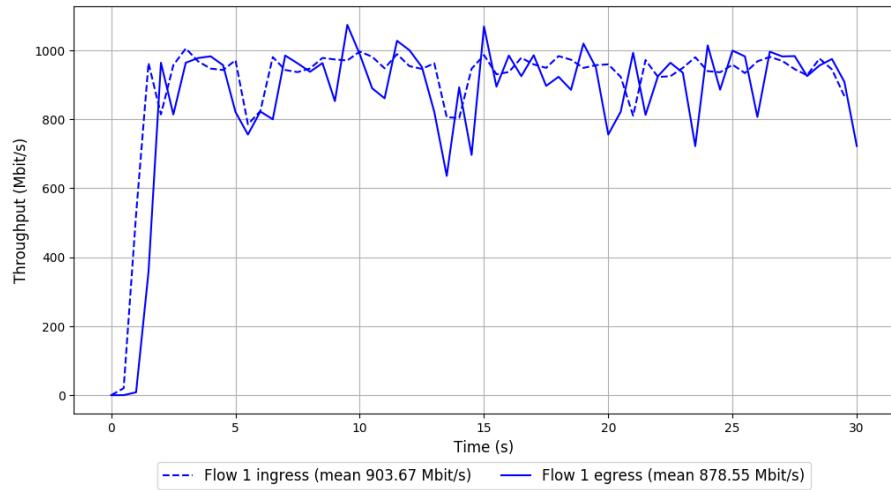


Run 2: Statistics of FillP

```
Start at: 2018-09-07 09:17:02
End at: 2018-09-07 09:17:32
Local clock offset: 10.393 ms
Remote clock offset: 14.698 ms

# Below is generated by plot.py at 2018-09-07 11:42:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 878.55 Mbit/s
95th percentile per-packet one-way delay: 156.087 ms
Loss rate: 3.34%
-- Flow 1:
Average throughput: 878.55 Mbit/s
95th percentile per-packet one-way delay: 156.087 ms
Loss rate: 3.34%
```

Run 2: Report of FillP — Data Link

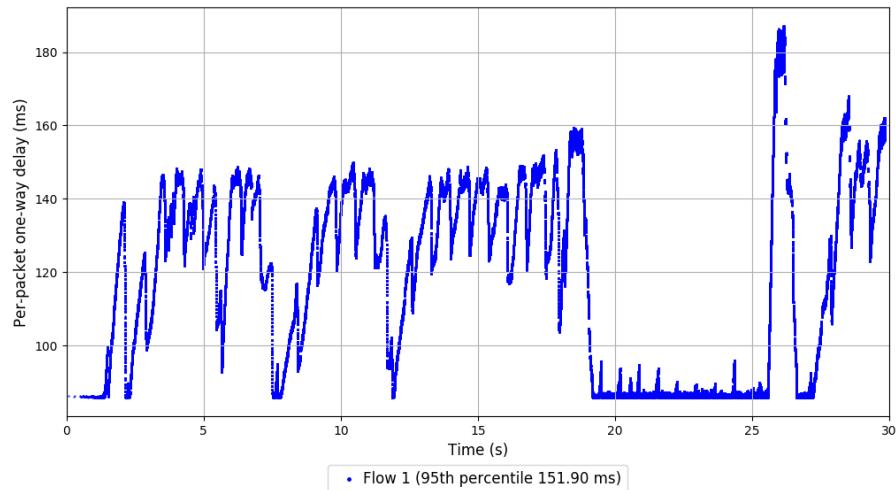
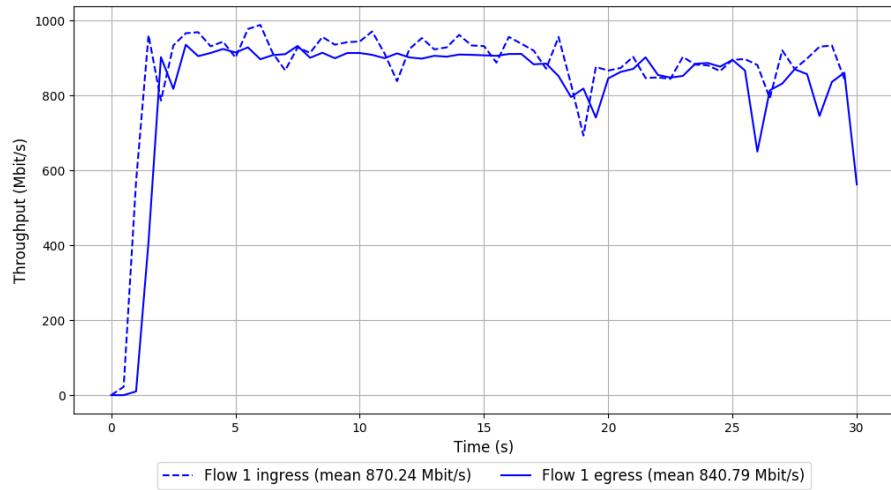


Run 3: Statistics of FillP

```
Start at: 2018-09-07 09:43:39
End at: 2018-09-07 09:44:09
Local clock offset: 4.546 ms
Remote clock offset: 9.168 ms

# Below is generated by plot.py at 2018-09-07 11:42:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 840.79 Mbit/s
95th percentile per-packet one-way delay: 151.904 ms
Loss rate: 3.94%
-- Flow 1:
Average throughput: 840.79 Mbit/s
95th percentile per-packet one-way delay: 151.904 ms
Loss rate: 3.94%
```

Run 3: Report of FillP — Data Link

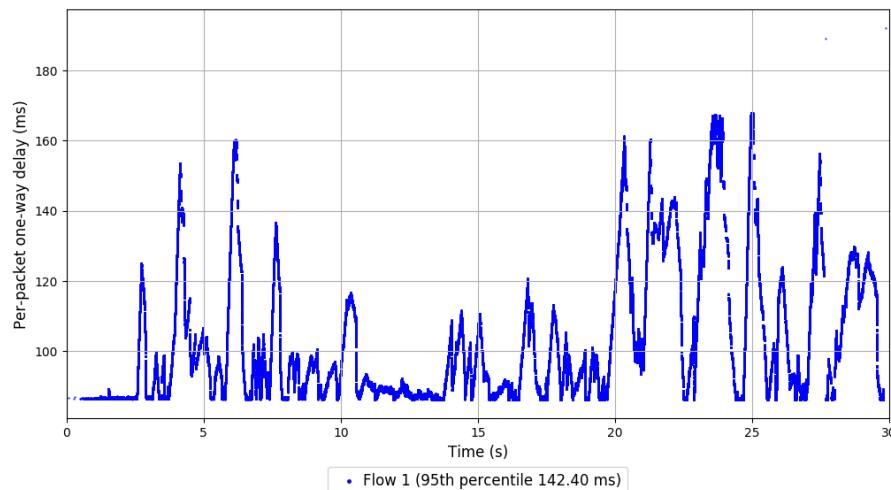
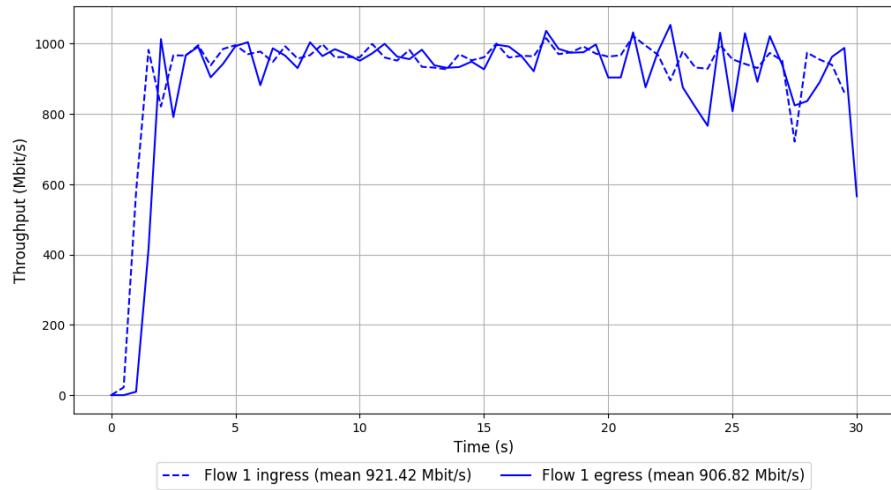


Run 4: Statistics of FillP

```
Start at: 2018-09-07 10:10:10
End at: 2018-09-07 10:10:40
Local clock offset: 3.756 ms
Remote clock offset: 8.012 ms

# Below is generated by plot.py at 2018-09-07 11:43:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 906.82 Mbit/s
95th percentile per-packet one-way delay: 142.403 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 906.82 Mbit/s
95th percentile per-packet one-way delay: 142.403 ms
Loss rate: 2.03%
```

Run 4: Report of FillP — Data Link

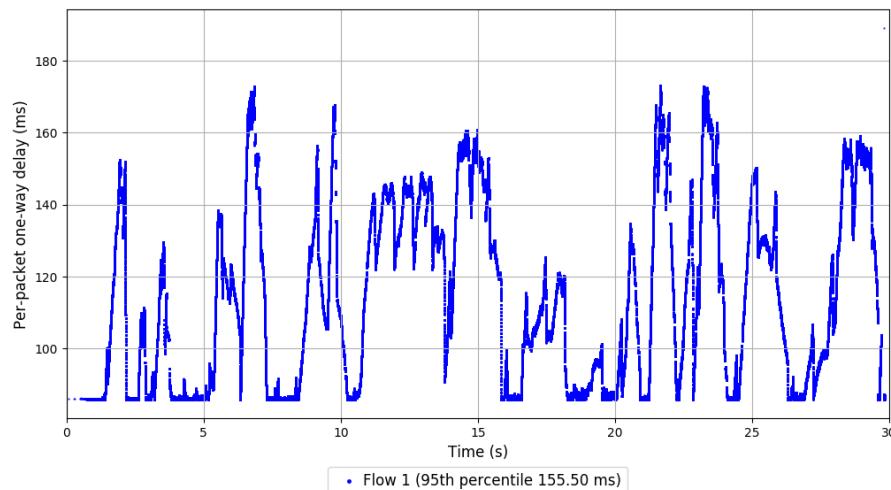
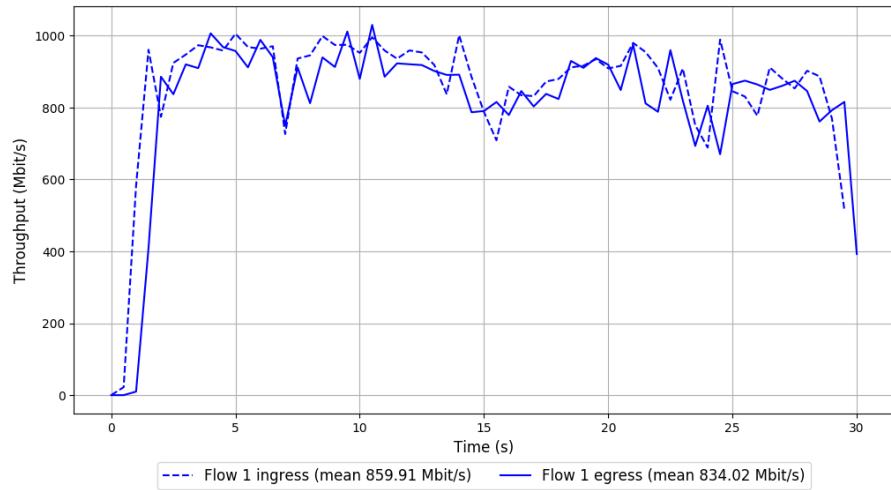


```
Run 5: Statistics of FillP
```

```
Start at: 2018-09-07 10:36:38
End at: 2018-09-07 10:37:08
Local clock offset: 1.764 ms
Remote clock offset: 3.951 ms

# Below is generated by plot.py at 2018-09-07 11:43:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 834.02 Mbit/s
95th percentile per-packet one-way delay: 155.502 ms
Loss rate: 3.57%
-- Flow 1:
Average throughput: 834.02 Mbit/s
95th percentile per-packet one-way delay: 155.502 ms
Loss rate: 3.57%
```

Run 5: Report of FillP — Data Link

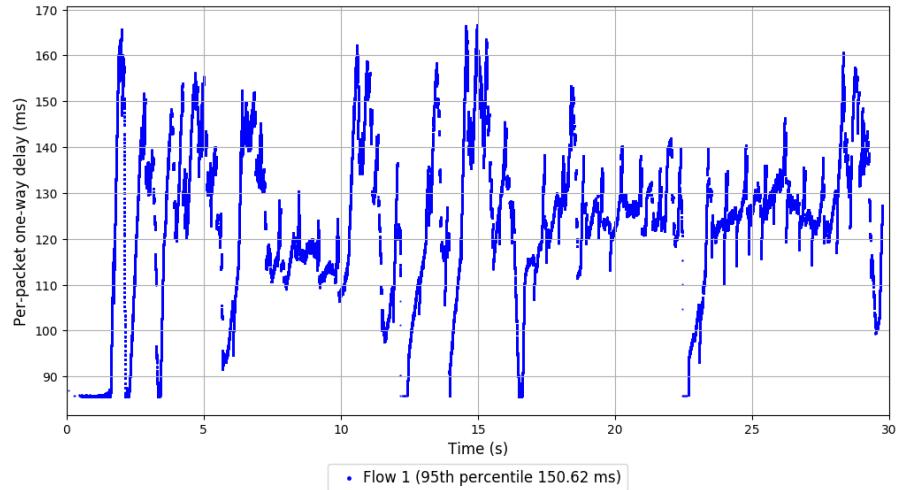
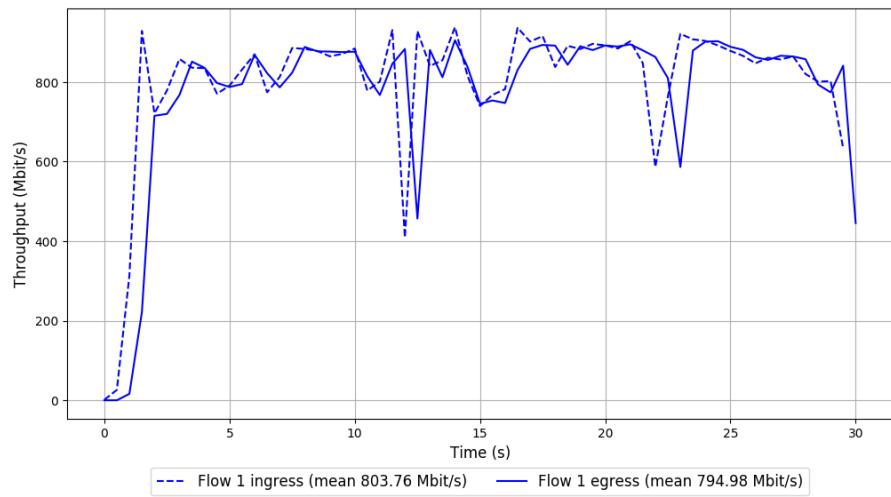


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-09-07 08:47:53
End at: 2018-09-07 08:48:23
Local clock offset: 27.605 ms
Remote clock offset: 26.5 ms

# Below is generated by plot.py at 2018-09-07 11:43:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 794.98 Mbit/s
95th percentile per-packet one-way delay: 150.625 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 794.98 Mbit/s
95th percentile per-packet one-way delay: 150.625 ms
Loss rate: 1.67%
```

Run 1: Report of FillP-Sheep — Data Link

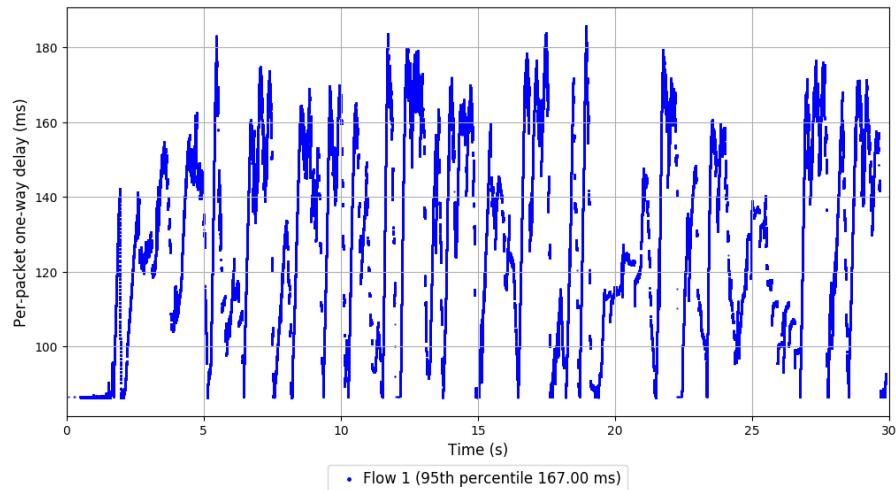
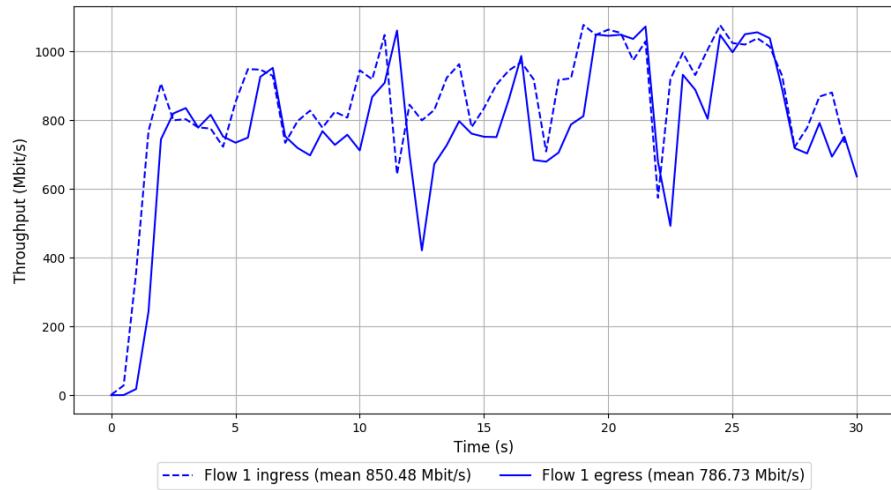


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-09-07 09:14:12
End at: 2018-09-07 09:14:42
Local clock offset: 11.595 ms
Remote clock offset: 15.352 ms

# Below is generated by plot.py at 2018-09-07 11:43:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 786.73 Mbit/s
95th percentile per-packet one-way delay: 167.003 ms
Loss rate: 8.03%
-- Flow 1:
Average throughput: 786.73 Mbit/s
95th percentile per-packet one-way delay: 167.003 ms
Loss rate: 8.03%
```

Run 2: Report of FillP-Sheep — Data Link

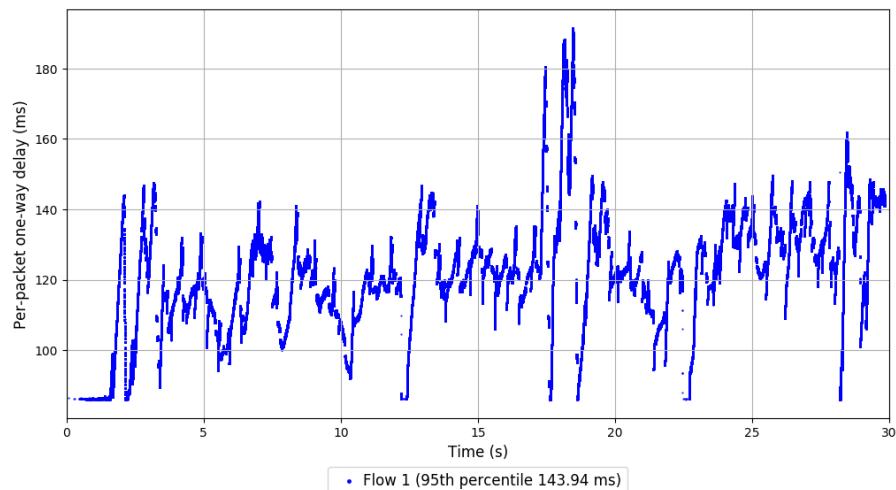
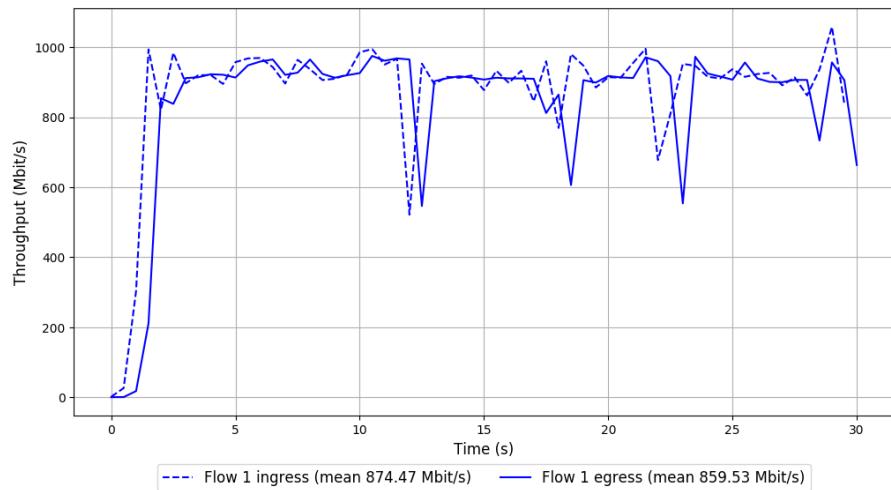


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-09-07 09:40:47
End at: 2018-09-07 09:41:17
Local clock offset: 5.745 ms
Remote clock offset: 11.07 ms

# Below is generated by plot.py at 2018-09-07 11:45:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 859.53 Mbit/s
95th percentile per-packet one-way delay: 143.944 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 859.53 Mbit/s
95th percentile per-packet one-way delay: 143.944 ms
Loss rate: 2.28%
```

Run 3: Report of FillP-Sheep — Data Link

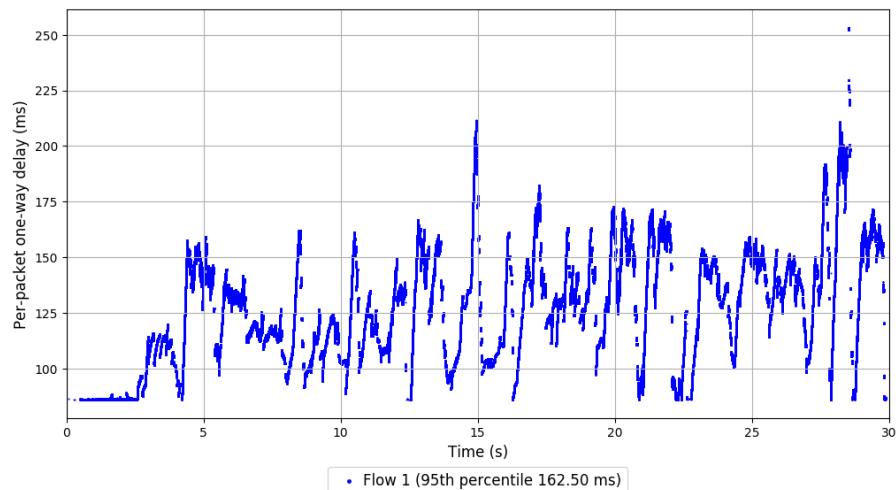
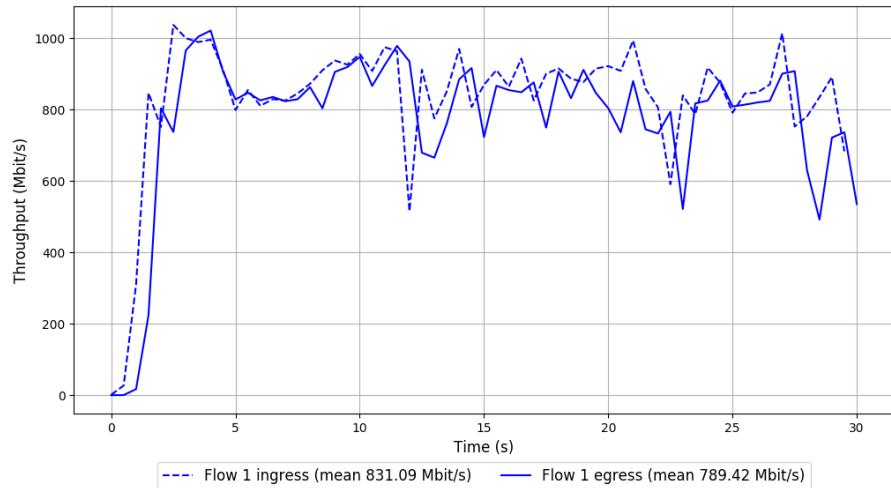


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-09-07 10:07:20
End at: 2018-09-07 10:07:50
Local clock offset: 4.161 ms
Remote clock offset: 9.147 ms

# Below is generated by plot.py at 2018-09-07 11:51:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 789.42 Mbit/s
95th percentile per-packet one-way delay: 162.496 ms
Loss rate: 5.56%
-- Flow 1:
Average throughput: 789.42 Mbit/s
95th percentile per-packet one-way delay: 162.496 ms
Loss rate: 5.56%
```

Run 4: Report of FillP-Sheep — Data Link

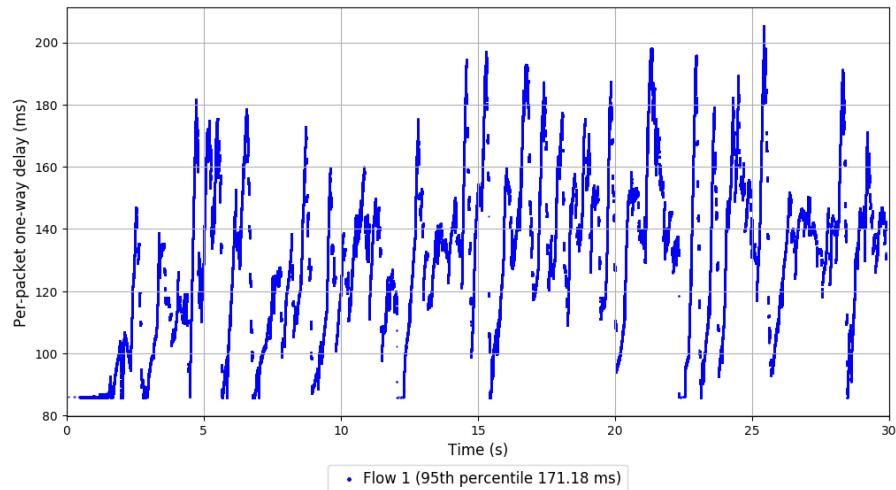
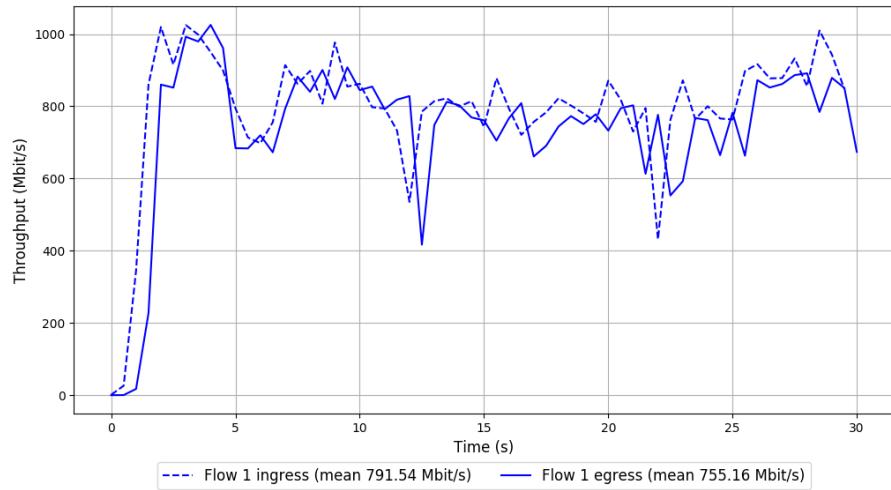


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-09-07 10:33:51
End at: 2018-09-07 10:34:21
Local clock offset: 1.754 ms
Remote clock offset: 3.668 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 755.16 Mbit/s
95th percentile per-packet one-way delay: 171.180 ms
Loss rate: 5.15%
-- Flow 1:
Average throughput: 755.16 Mbit/s
95th percentile per-packet one-way delay: 171.180 ms
Loss rate: 5.15%
```

Run 5: Report of FillP-Sheep — Data Link

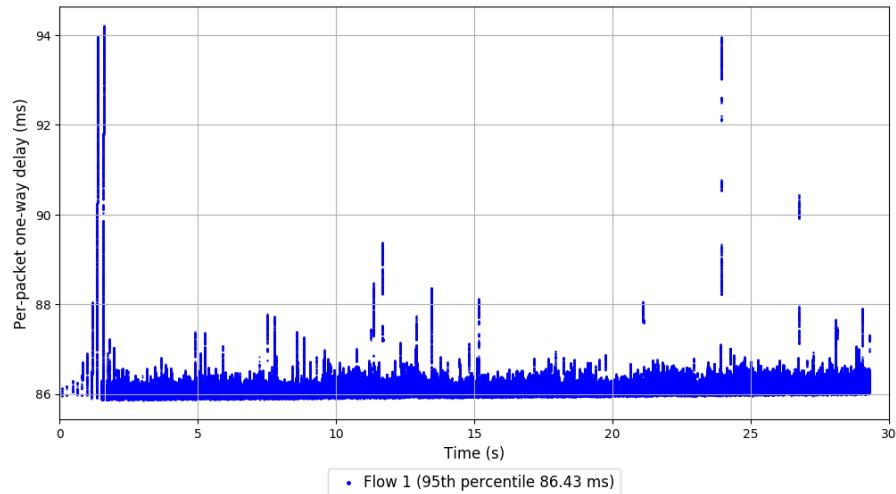
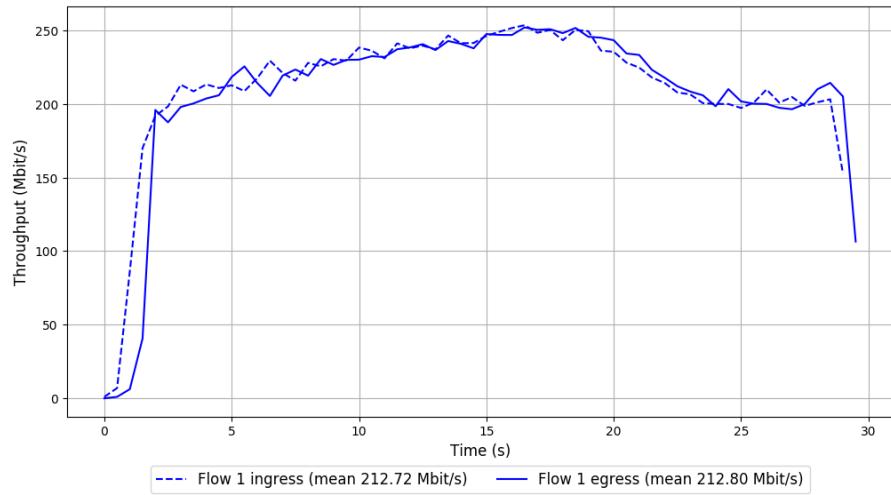


Run 1: Statistics of Indigo

```
Start at: 2018-09-07 09:09:27
End at: 2018-09-07 09:09:57
Local clock offset: 15.981 ms
Remote clock offset: 18.449 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 212.80 Mbit/s
95th percentile per-packet one-way delay: 86.428 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 212.80 Mbit/s
95th percentile per-packet one-way delay: 86.428 ms
Loss rate: 0.55%
```

Run 1: Report of Indigo — Data Link

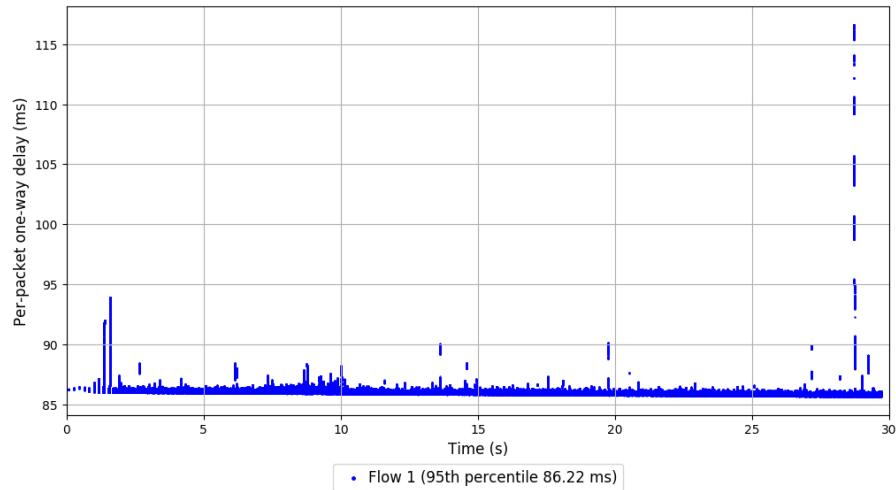
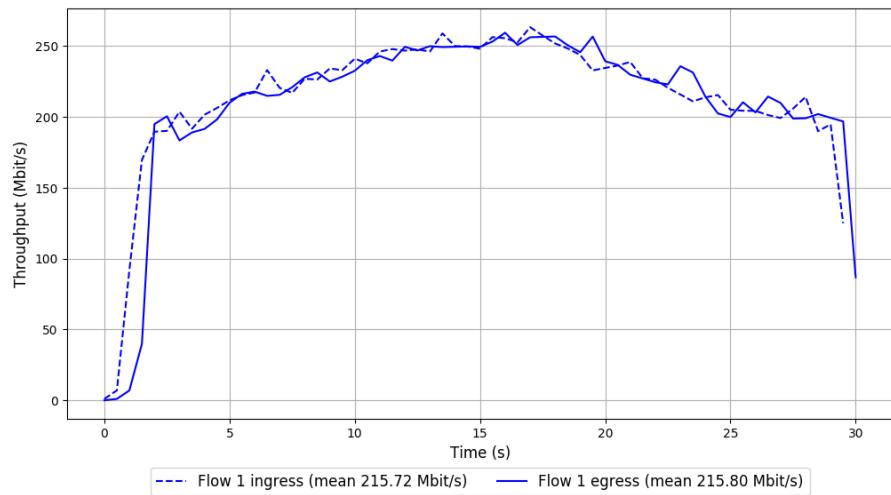


Run 2: Statistics of Indigo

```
Start at: 2018-09-07 09:36:04
End at: 2018-09-07 09:36:34
Local clock offset: 8.726 ms
Remote clock offset: 16.674 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 215.80 Mbit/s
95th percentile per-packet one-way delay: 86.224 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 215.80 Mbit/s
95th percentile per-packet one-way delay: 86.224 ms
Loss rate: 0.54%
```

Run 2: Report of Indigo — Data Link

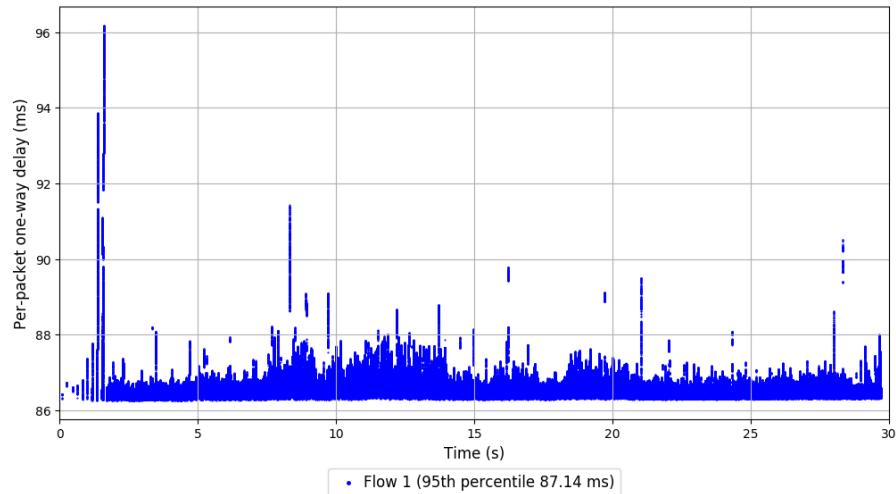
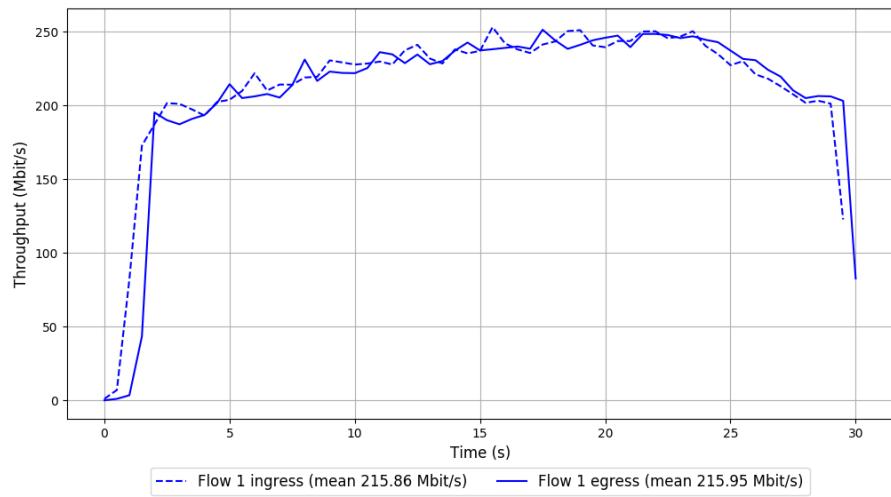


Run 3: Statistics of Indigo

```
Start at: 2018-09-07 10:02:32
End at: 2018-09-07 10:03:02
Local clock offset: 3.937 ms
Remote clock offset: 8.239 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 215.95 Mbit/s
95th percentile per-packet one-way delay: 87.138 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 215.95 Mbit/s
95th percentile per-packet one-way delay: 87.138 ms
Loss rate: 0.55%
```

Run 3: Report of Indigo — Data Link

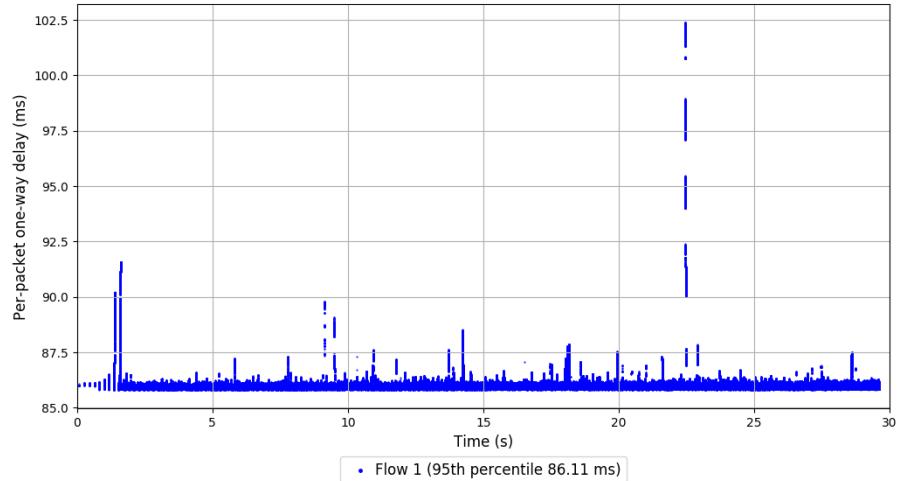
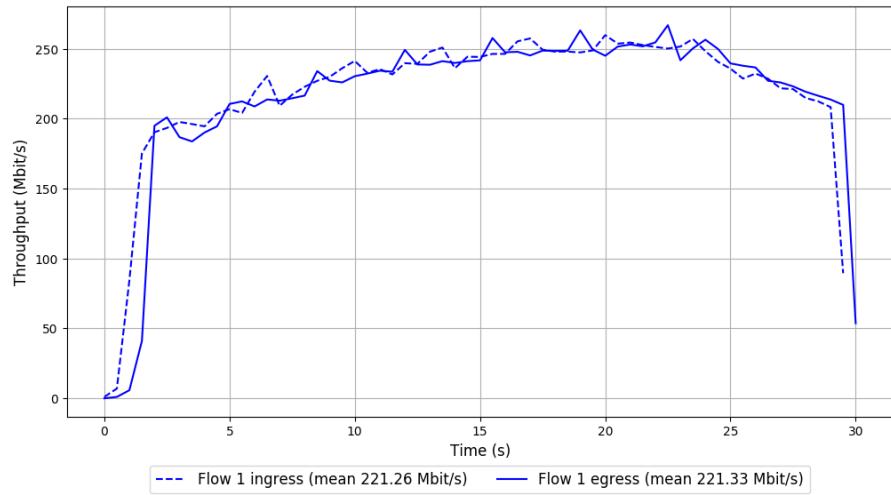


Run 4: Statistics of Indigo

```
Start at: 2018-09-07 10:29:00
End at: 2018-09-07 10:29:30
Local clock offset: 1.778 ms
Remote clock offset: 3.438 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 221.33 Mbit/s
95th percentile per-packet one-way delay: 86.114 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 221.33 Mbit/s
95th percentile per-packet one-way delay: 86.114 ms
Loss rate: 0.55%
```

Run 4: Report of Indigo — Data Link

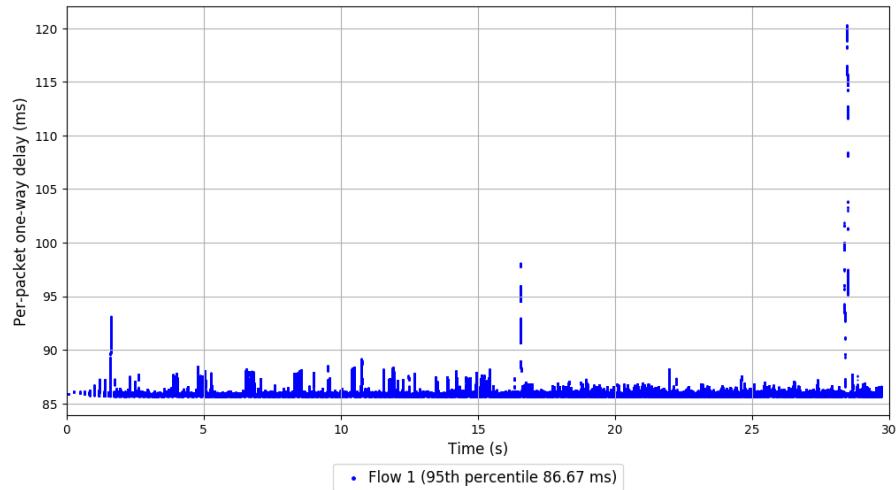
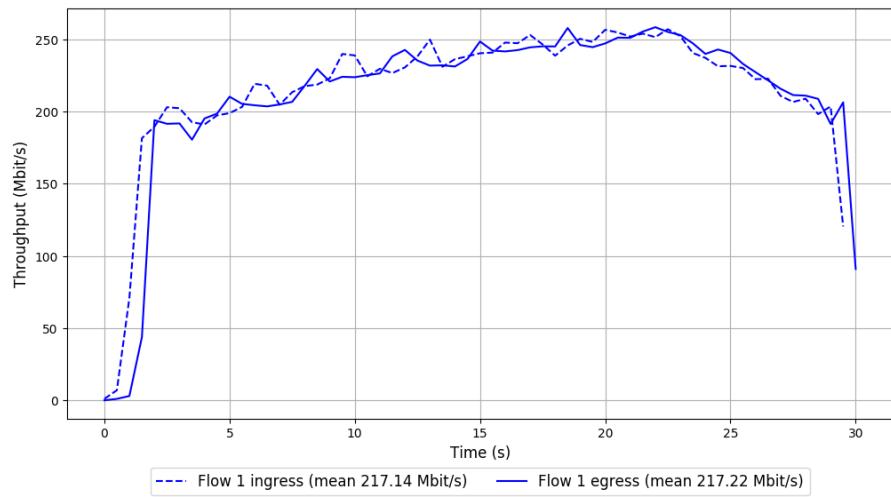


Run 5: Statistics of Indigo

```
Start at: 2018-09-07 10:55:36
End at: 2018-09-07 10:56:06
Local clock offset: 0.81 ms
Remote clock offset: 1.388 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 217.22 Mbit/s
95th percentile per-packet one-way delay: 86.673 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 217.22 Mbit/s
95th percentile per-packet one-way delay: 86.673 ms
Loss rate: 0.54%
```

Run 5: Report of Indigo — Data Link

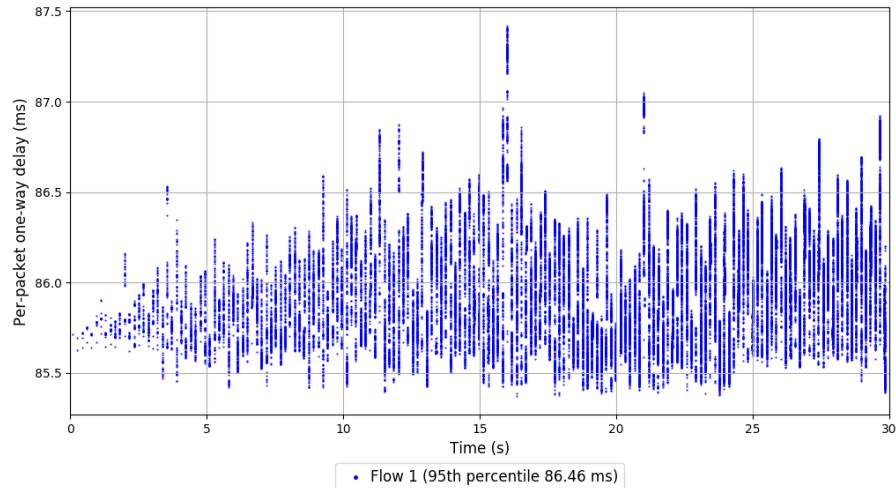
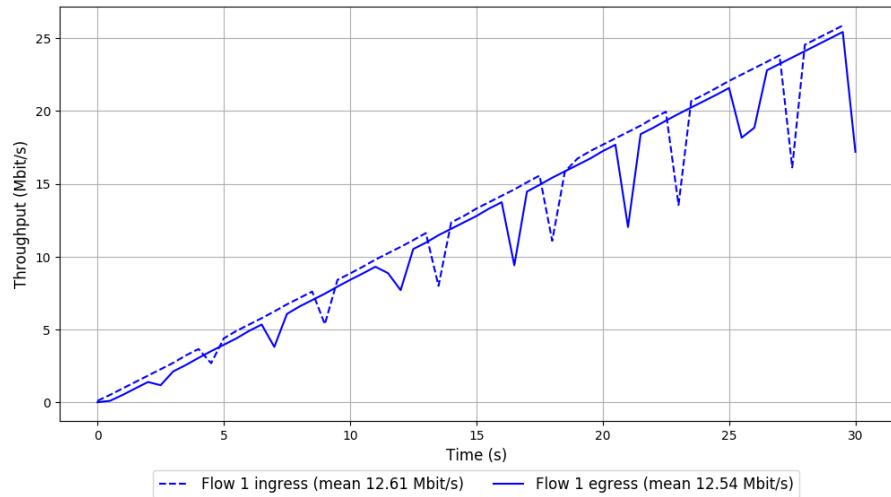


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-09-07 08:58:09
End at: 2018-09-07 08:58:39
Local clock offset: 37.906 ms
Remote clock offset: 36.661 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.54 Mbit/s
95th percentile per-packet one-way delay: 86.463 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.54 Mbit/s
95th percentile per-packet one-way delay: 86.463 ms
Loss rate: 1.15%
```

Run 1: Report of LEDBAT — Data Link

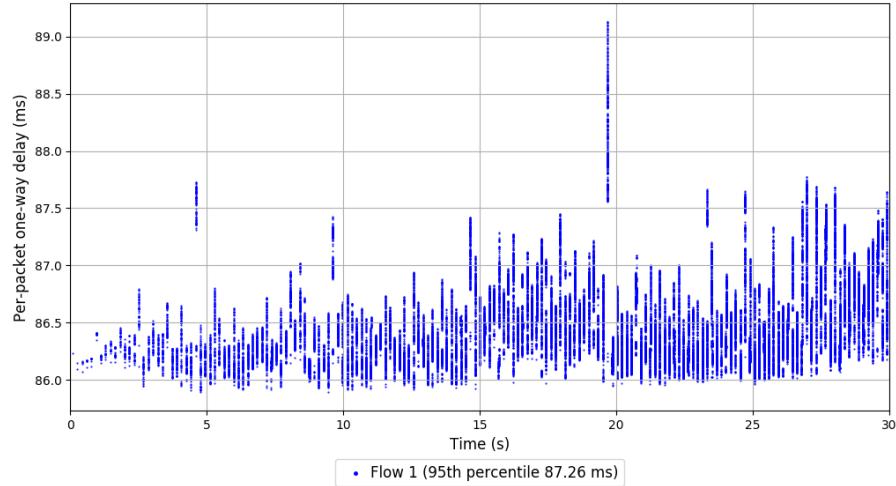
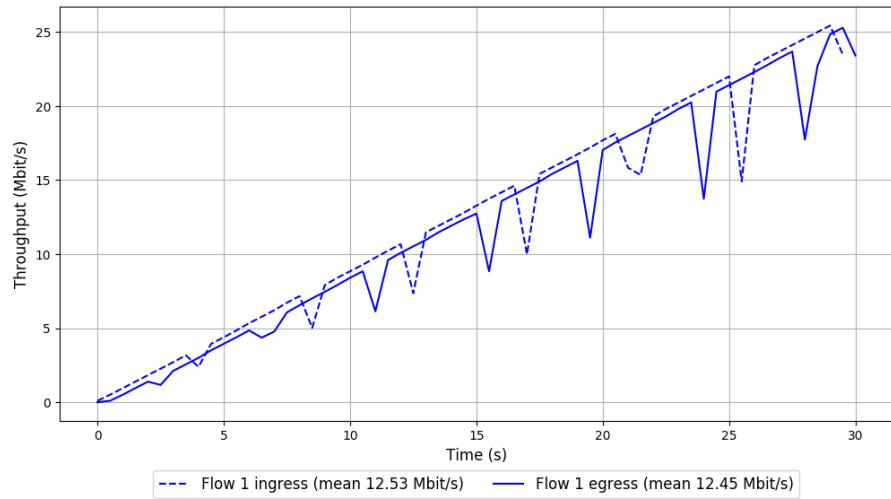


Run 2: Statistics of LEDBAT

```
Start at: 2018-09-07 09:24:34
End at: 2018-09-07 09:25:05
Local clock offset: 9.09 ms
Remote clock offset: 15.689 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 87.258 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 87.258 ms
Loss rate: 1.14%
```

Run 2: Report of LEDBAT — Data Link

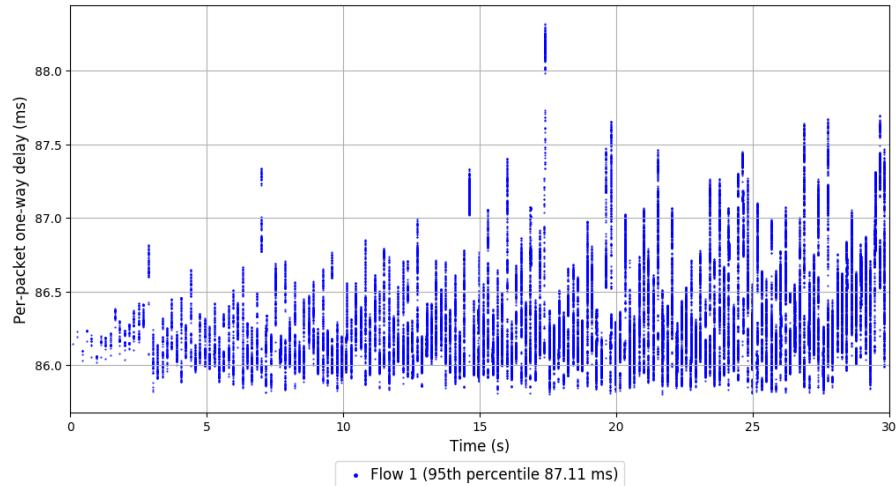
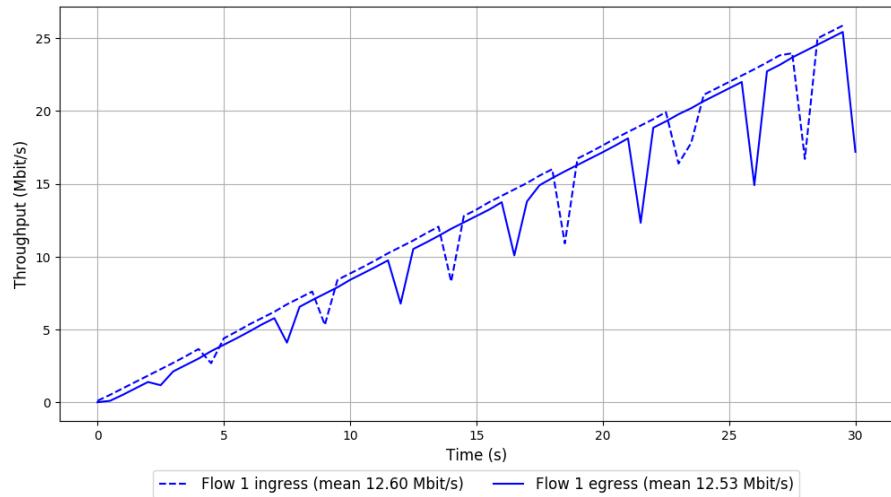


Run 3: Statistics of LEDBAT

```
Start at: 2018-09-07 09:51:10
End at: 2018-09-07 09:51:40
Local clock offset: 3.473 ms
Remote clock offset: 7.216 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 87.111 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 87.111 ms
Loss rate: 1.15%
```

Run 3: Report of LEDBAT — Data Link

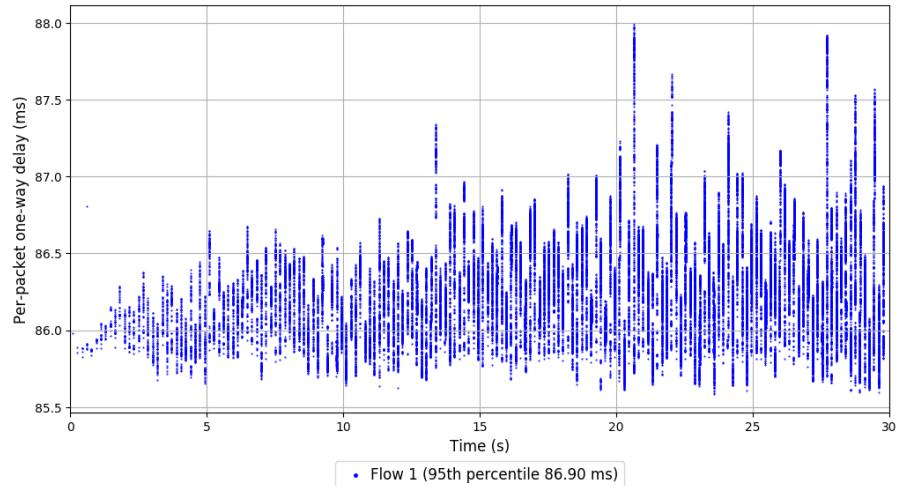
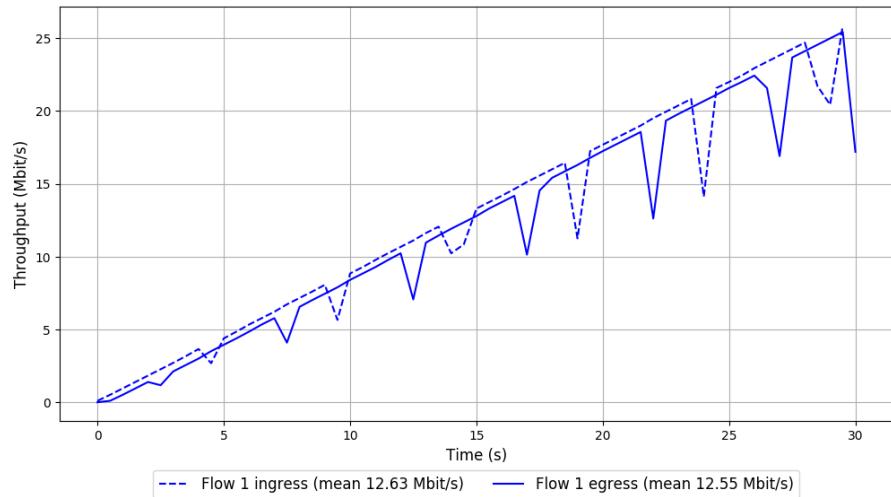


Run 4: Statistics of LEDBAT

```
Start at: 2018-09-07 10:17:37
End at: 2018-09-07 10:18:07
Local clock offset: 1.939 ms
Remote clock offset: 4.433 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 86.899 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 86.899 ms
Loss rate: 1.15%
```

Run 4: Report of LEDBAT — Data Link

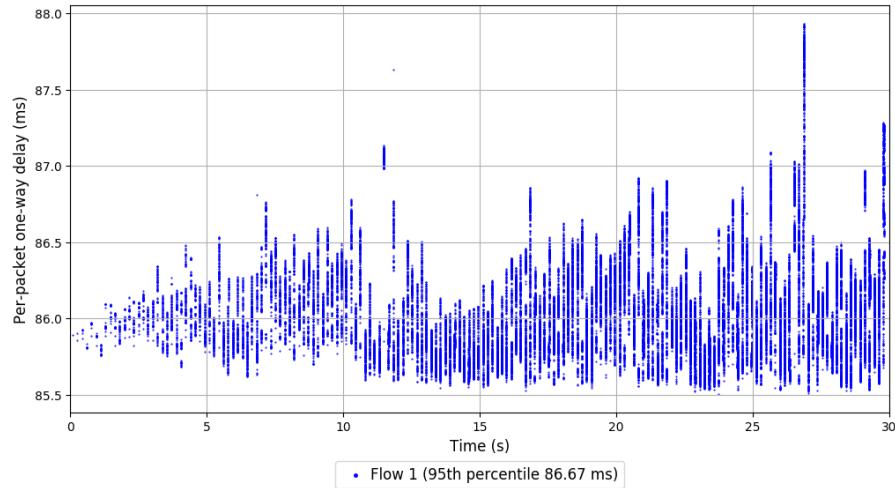
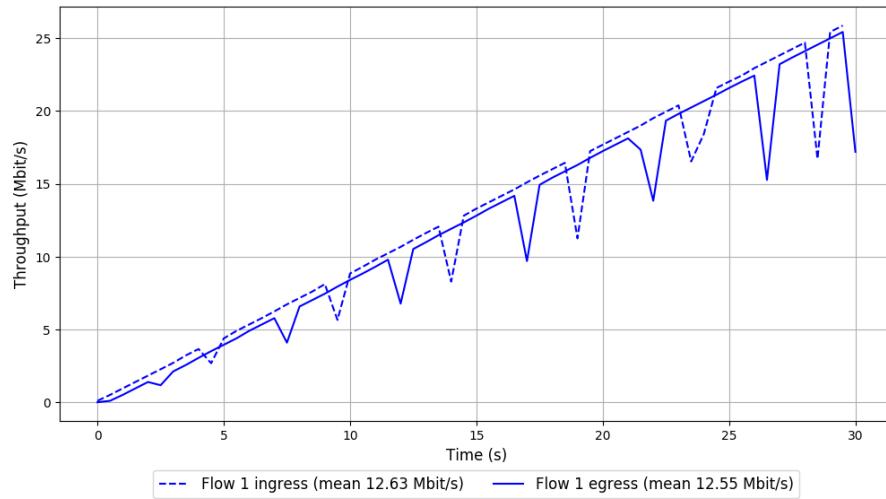


Run 5: Statistics of LEDBAT

```
Start at: 2018-09-07 10:44:10
End at: 2018-09-07 10:44:40
Local clock offset: 1.685 ms
Remote clock offset: 3.805 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 86.666 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 86.666 ms
Loss rate: 1.15%
```

Run 5: Report of LEDBAT — Data Link

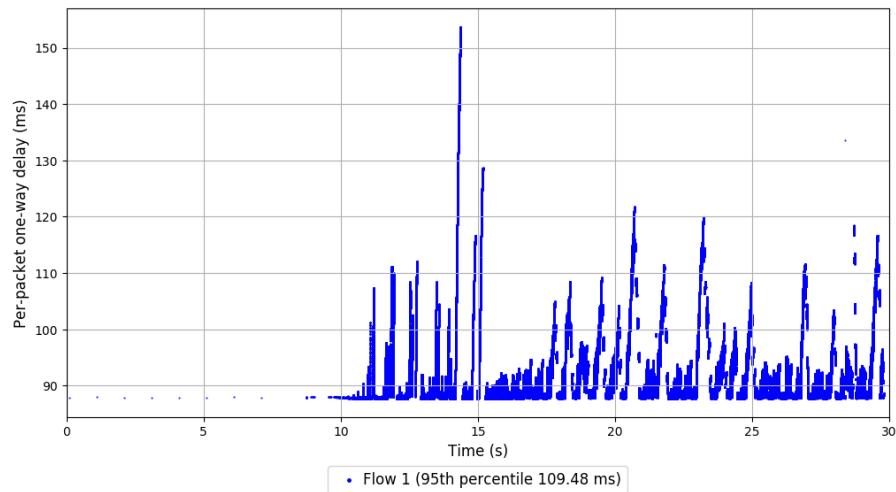
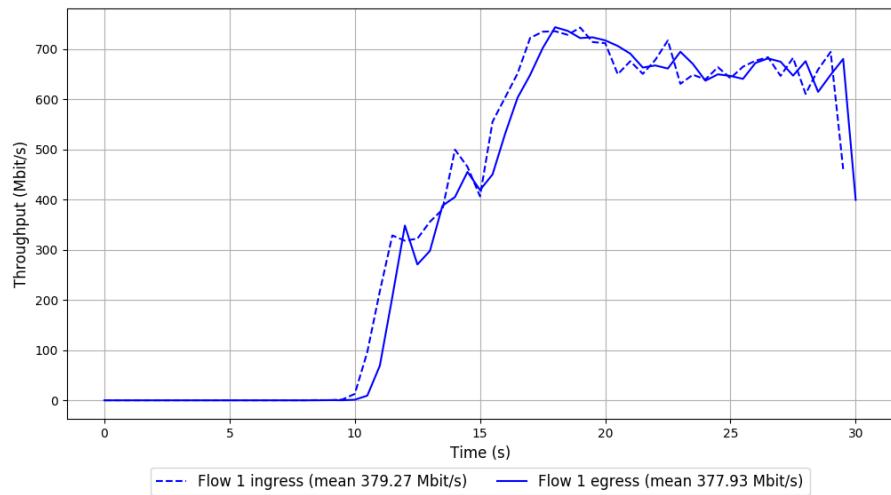


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-09-07 09:00:30
End at: 2018-09-07 09:01:00
Local clock offset: 39.078 ms
Remote clock offset: 38.0 ms

# Below is generated by plot.py at 2018-09-07 11:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 377.93 Mbit/s
95th percentile per-packet one-way delay: 109.480 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 377.93 Mbit/s
95th percentile per-packet one-way delay: 109.480 ms
Loss rate: 0.93%
```

Run 1: Report of Indigo-Muses — Data Link

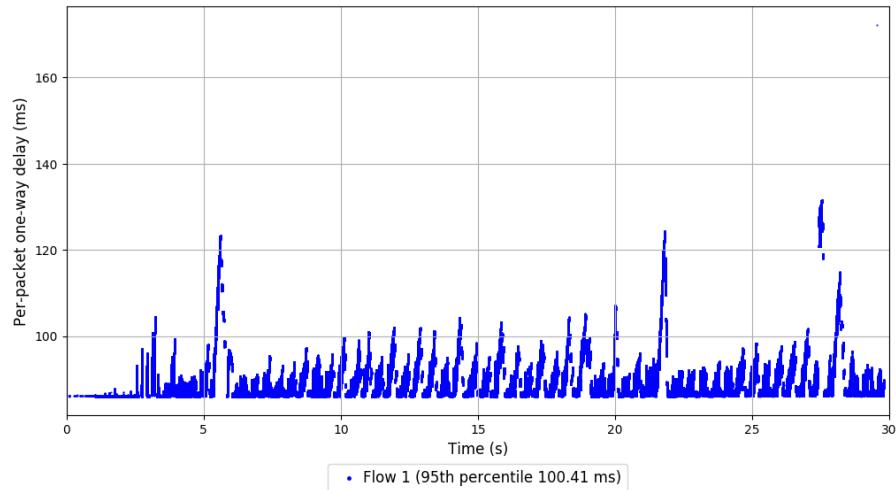
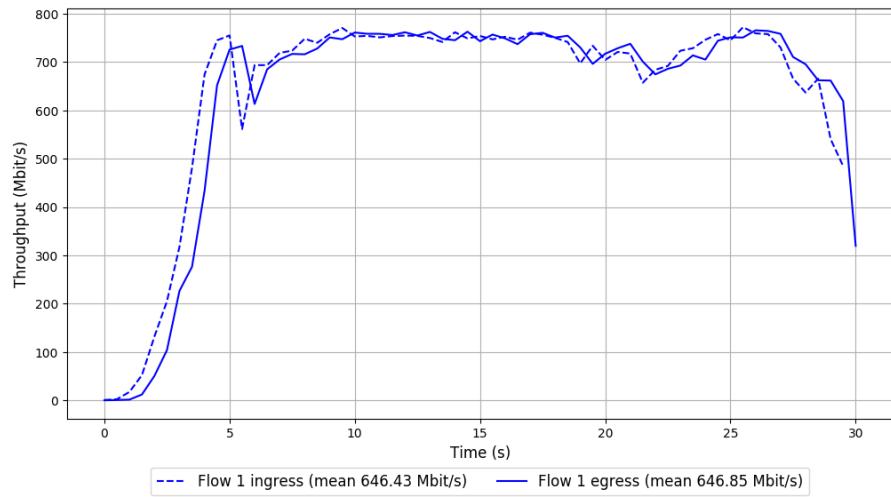


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-09-07 09:26:56
End at: 2018-09-07 09:27:26
Local clock offset: 9.383 ms
Remote clock offset: 16.437 ms

# Below is generated by plot.py at 2018-09-07 11:59:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 646.85 Mbit/s
95th percentile per-packet one-way delay: 100.410 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 646.85 Mbit/s
95th percentile per-packet one-way delay: 100.410 ms
Loss rate: 0.51%
```

Run 2: Report of Indigo-Muses — Data Link

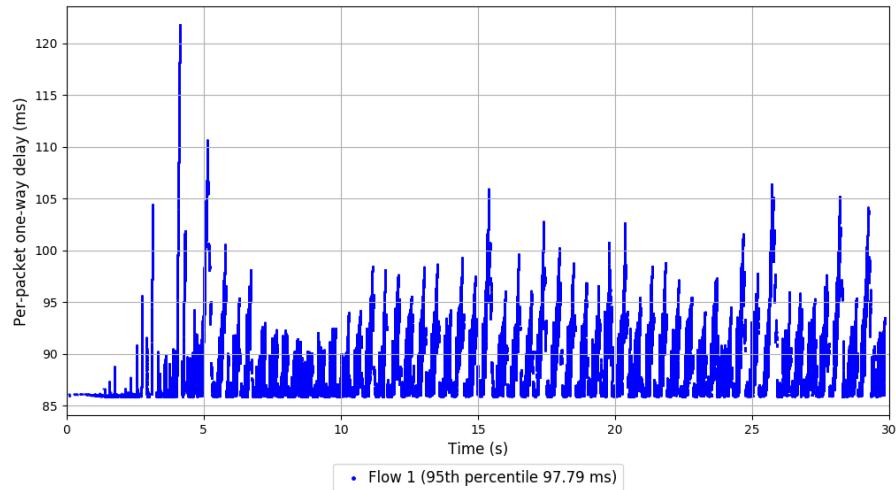
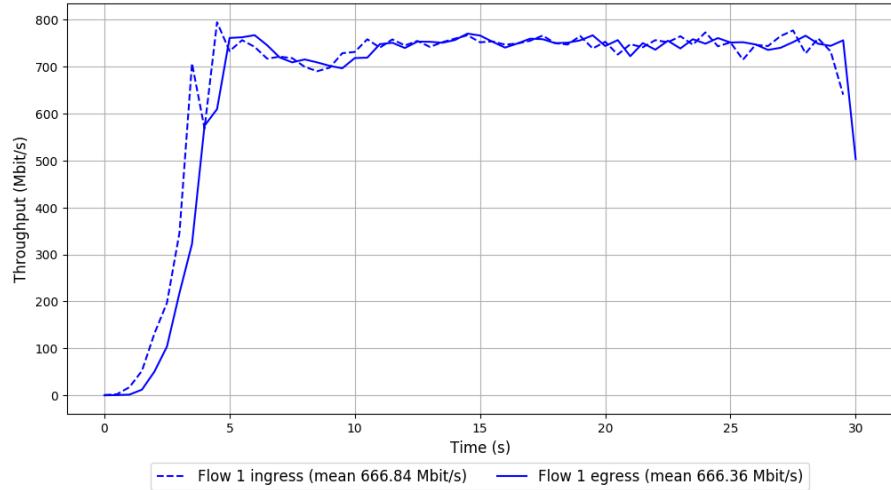


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-09-07 09:53:30
End at: 2018-09-07 09:54:00
Local clock offset: 3.415 ms
Remote clock offset: 7.174 ms

# Below is generated by plot.py at 2018-09-07 11:59:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 666.36 Mbit/s
95th percentile per-packet one-way delay: 97.789 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 666.36 Mbit/s
95th percentile per-packet one-way delay: 97.789 ms
Loss rate: 0.65%
```

Run 3: Report of Indigo-Muses — Data Link

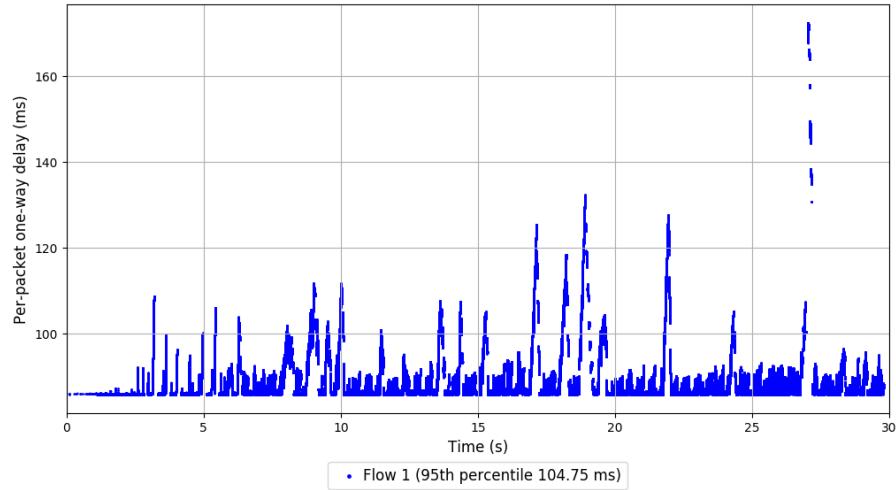
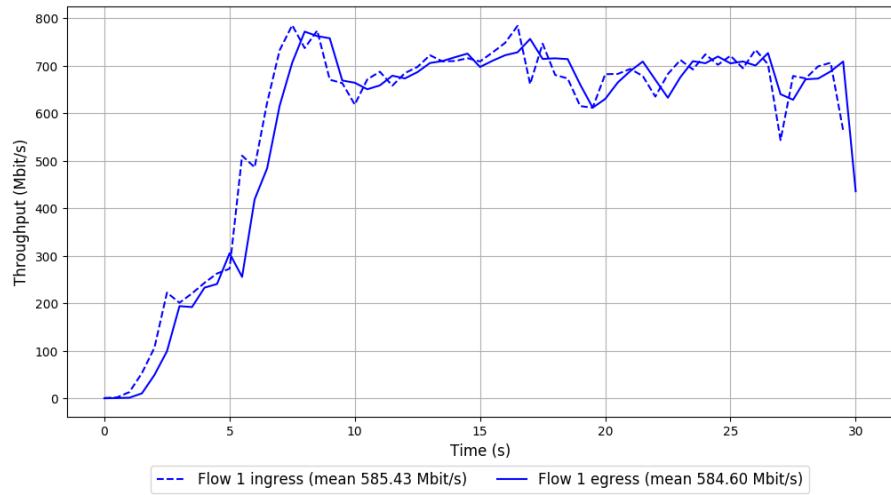


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-09-07 10:19:58
End at: 2018-09-07 10:20:28
Local clock offset: 1.904 ms
Remote clock offset: 3.909 ms

# Below is generated by plot.py at 2018-09-07 11:59:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 584.60 Mbit/s
95th percentile per-packet one-way delay: 104.750 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 584.60 Mbit/s
95th percentile per-packet one-way delay: 104.750 ms
Loss rate: 0.72%
```

Run 4: Report of Indigo-Muses — Data Link

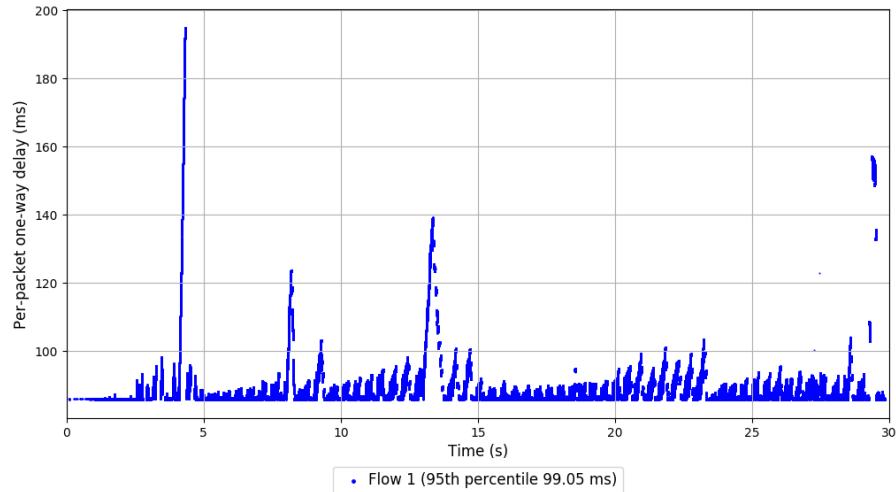
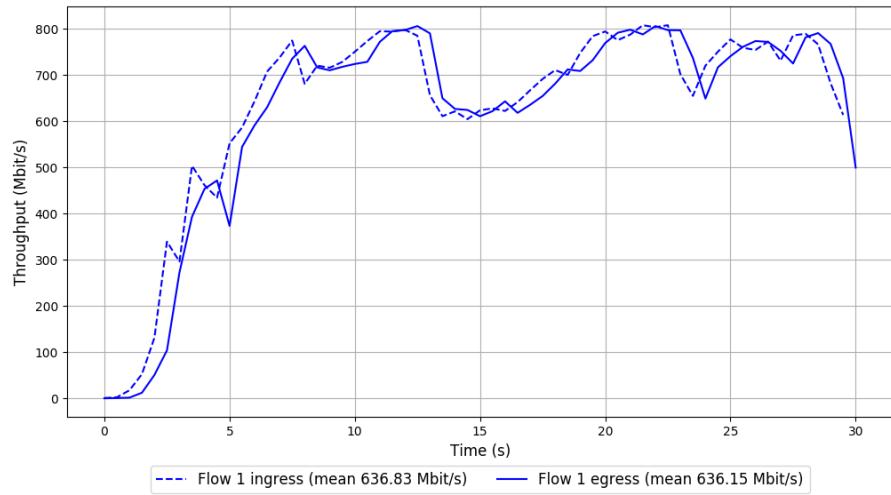


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-09-07 10:46:31
End at: 2018-09-07 10:47:01
Local clock offset: 1.471 ms
Remote clock offset: 2.998 ms

# Below is generated by plot.py at 2018-09-07 11:59:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 636.15 Mbit/s
95th percentile per-packet one-way delay: 99.047 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 636.15 Mbit/s
95th percentile per-packet one-way delay: 99.047 ms
Loss rate: 0.69%
```

Run 5: Report of Indigo-Muses — Data Link

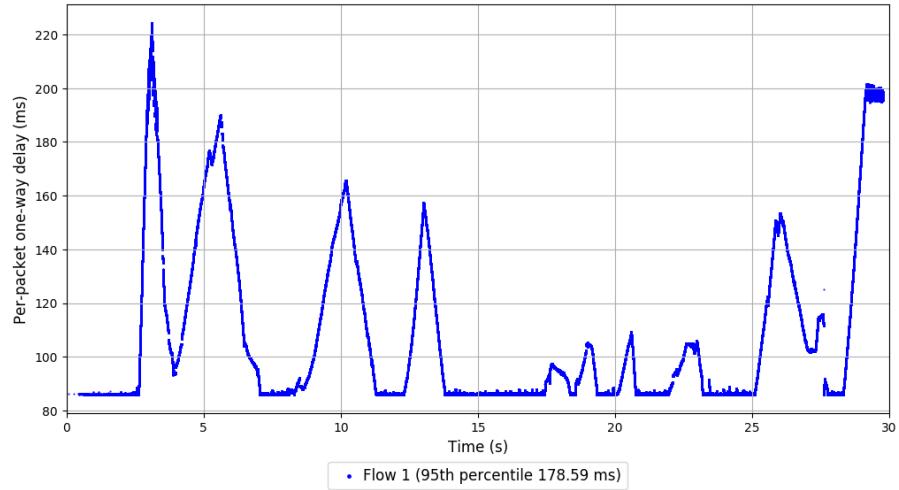
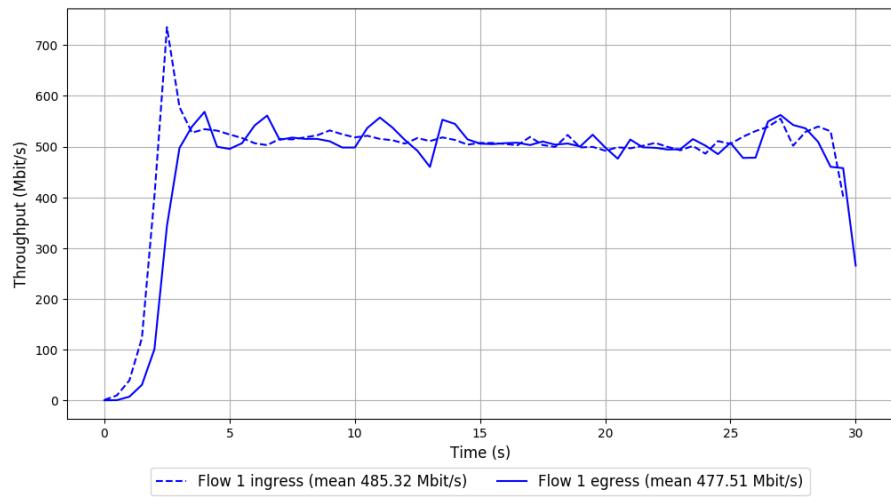


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-09-07 08:46:13
End at: 2018-09-07 08:46:43
Local clock offset: 26.036 ms
Remote clock offset: 25.105 ms

# Below is generated by plot.py at 2018-09-07 12:06:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 477.51 Mbit/s
95th percentile per-packet one-way delay: 178.595 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 477.51 Mbit/s
95th percentile per-packet one-way delay: 178.595 ms
Loss rate: 2.18%
```

Run 1: Report of PCC-Allegro — Data Link

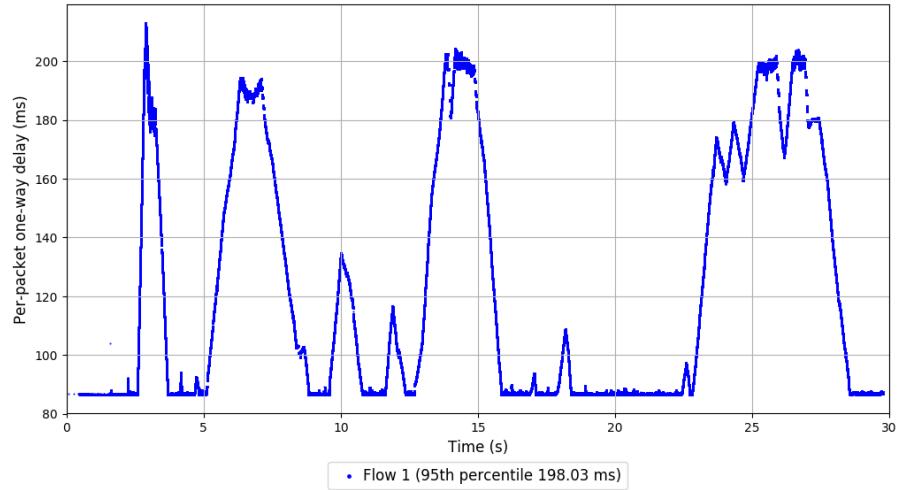
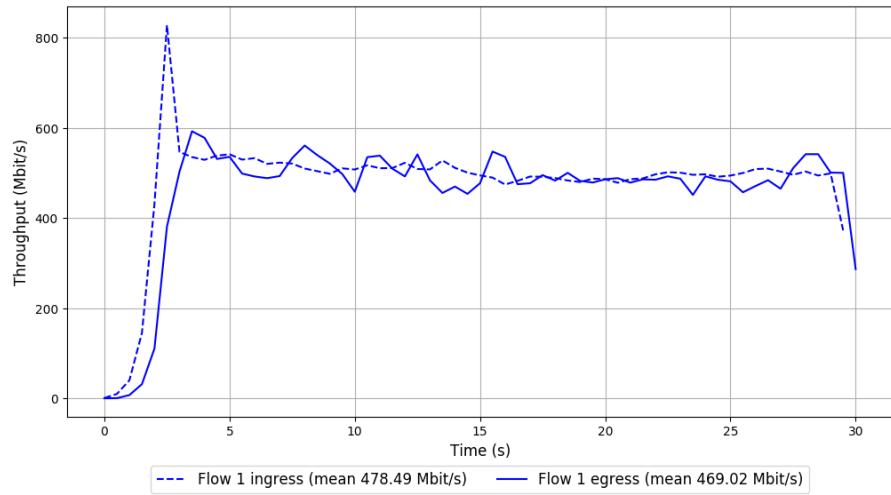


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-09-07 09:12:33
End at: 2018-09-07 09:13:03
Local clock offset: 12.971 ms
Remote clock offset: 16.047 ms

# Below is generated by plot.py at 2018-09-07 12:07:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 469.02 Mbit/s
95th percentile per-packet one-way delay: 198.032 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 469.02 Mbit/s
95th percentile per-packet one-way delay: 198.032 ms
Loss rate: 2.55%
```

Run 2: Report of PCC-Allegro — Data Link

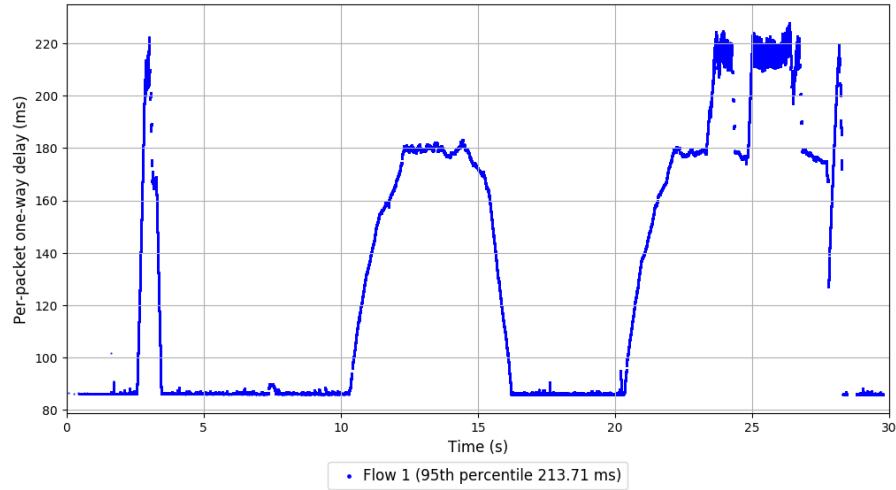
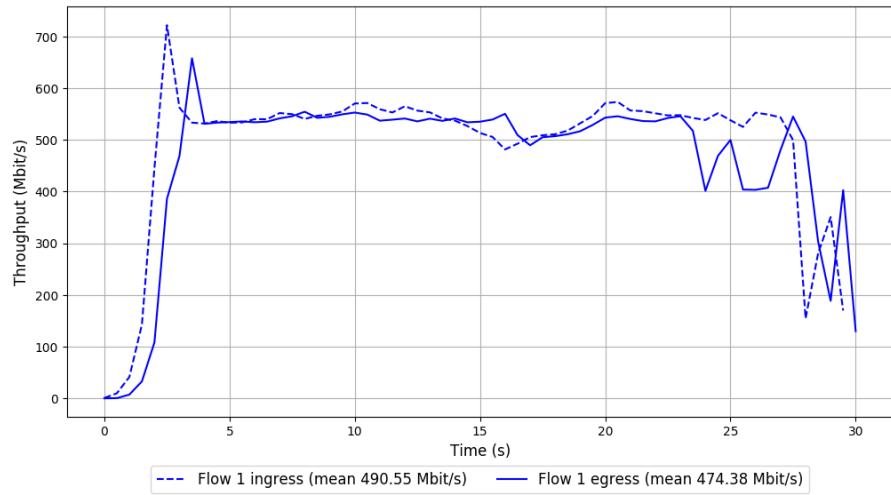


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-09-07 09:39:08
End at: 2018-09-07 09:39:38
Local clock offset: 6.645 ms
Remote clock offset: 12.556 ms

# Below is generated by plot.py at 2018-09-07 12:10:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 474.38 Mbit/s
95th percentile per-packet one-way delay: 213.707 ms
Loss rate: 3.86%
-- Flow 1:
Average throughput: 474.38 Mbit/s
95th percentile per-packet one-way delay: 213.707 ms
Loss rate: 3.86%
```

Run 3: Report of PCC-Allegro — Data Link

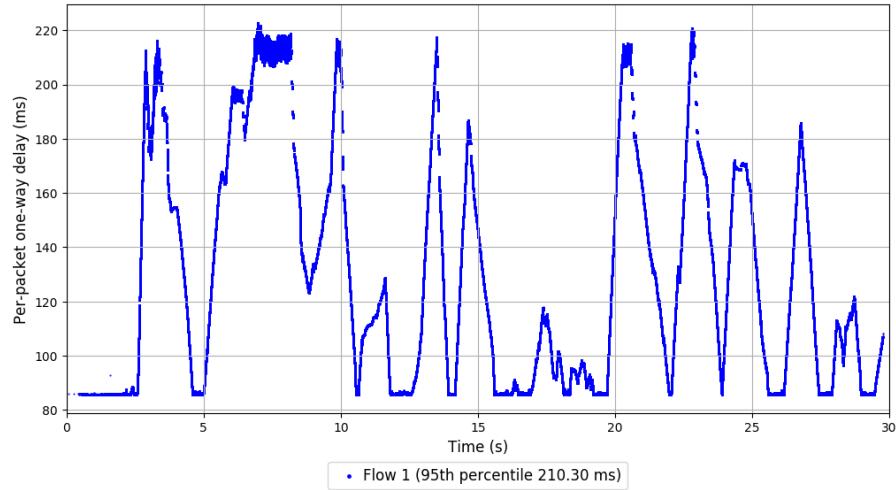
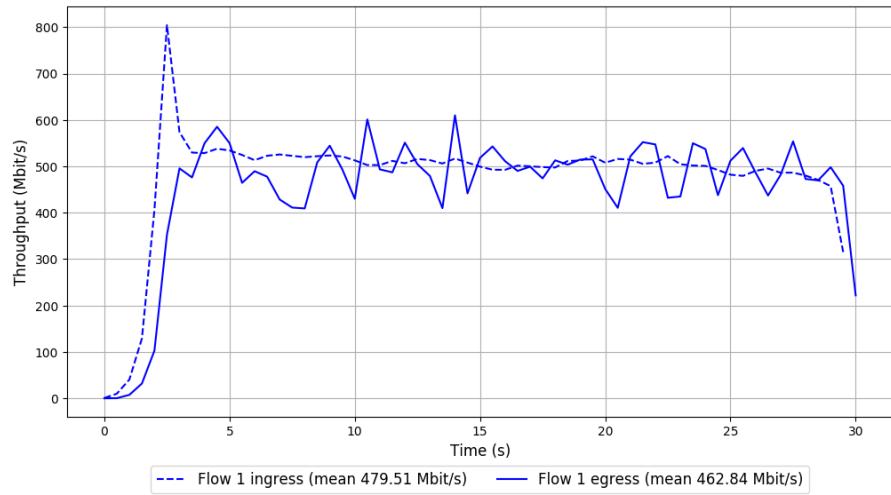


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-09-07 10:05:41
End at: 2018-09-07 10:06:11
Local clock offset: 3.988 ms
Remote clock offset: 8.823 ms

# Below is generated by plot.py at 2018-09-07 12:13:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 462.84 Mbit/s
95th percentile per-packet one-way delay: 210.301 ms
Loss rate: 4.03%
-- Flow 1:
Average throughput: 462.84 Mbit/s
95th percentile per-packet one-way delay: 210.301 ms
Loss rate: 4.03%
```

Run 4: Report of PCC-Allegro — Data Link

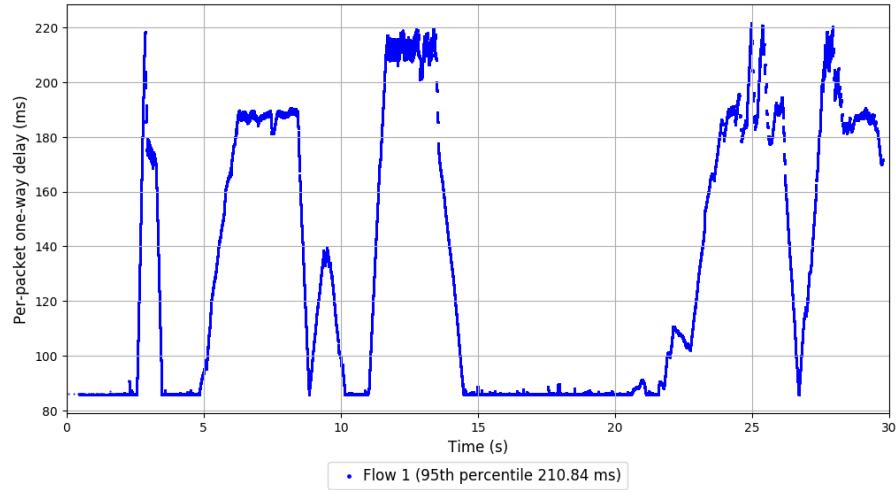
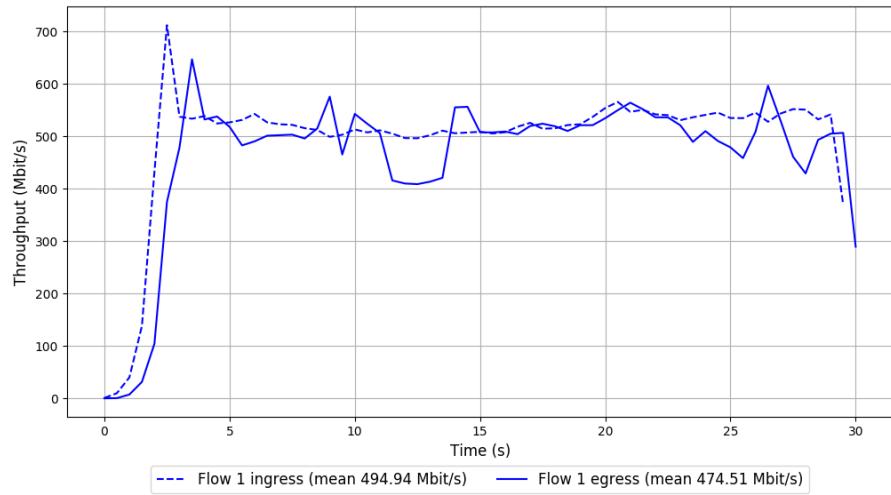


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-09-07 10:32:10
End at: 2018-09-07 10:32:40
Local clock offset: 1.593 ms
Remote clock offset: 3.568 ms

# Below is generated by plot.py at 2018-09-07 12:14:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 474.51 Mbit/s
95th percentile per-packet one-way delay: 210.837 ms
Loss rate: 4.68%
-- Flow 1:
Average throughput: 474.51 Mbit/s
95th percentile per-packet one-way delay: 210.837 ms
Loss rate: 4.68%
```

Run 5: Report of PCC-Allegro — Data Link

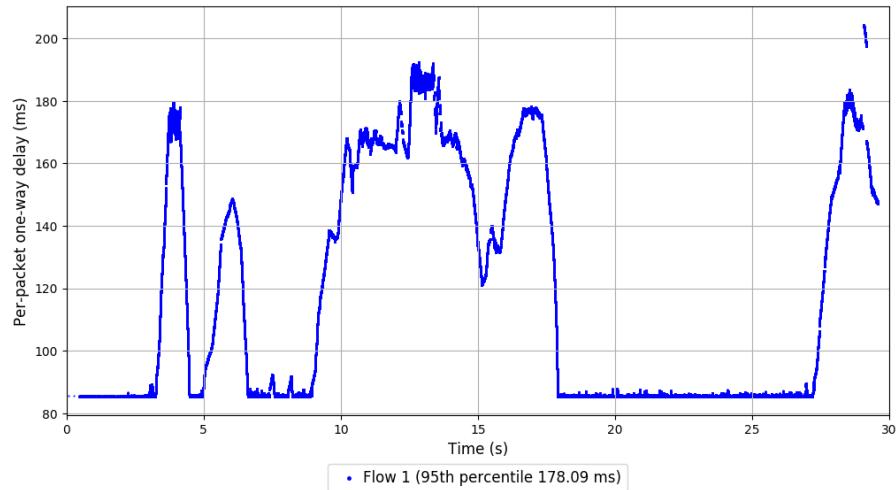
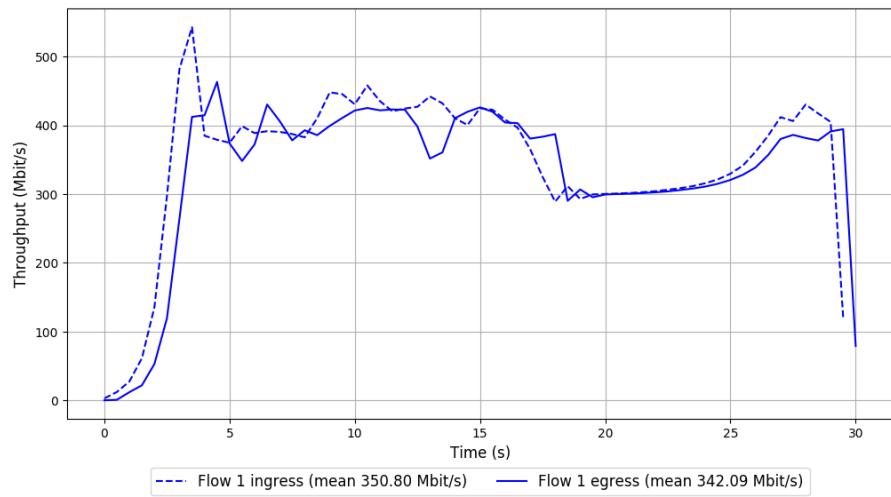


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-09-07 08:53:58
End at: 2018-09-07 08:54:28
Local clock offset: 33.356 ms
Remote clock offset: 32.356 ms

# Below is generated by plot.py at 2018-09-07 12:14:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 342.09 Mbit/s
95th percentile per-packet one-way delay: 178.085 ms
Loss rate: 3.11%
-- Flow 1:
Average throughput: 342.09 Mbit/s
95th percentile per-packet one-way delay: 178.085 ms
Loss rate: 3.11%
```

Run 1: Report of PCC-Expr — Data Link

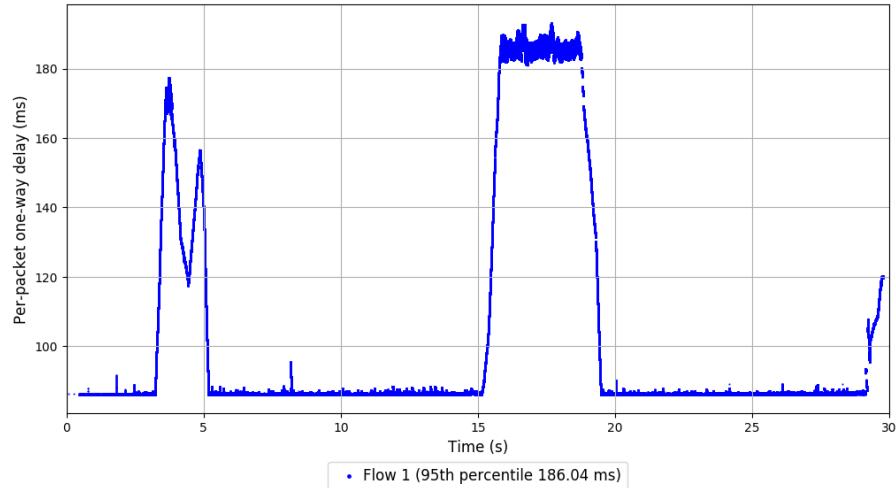
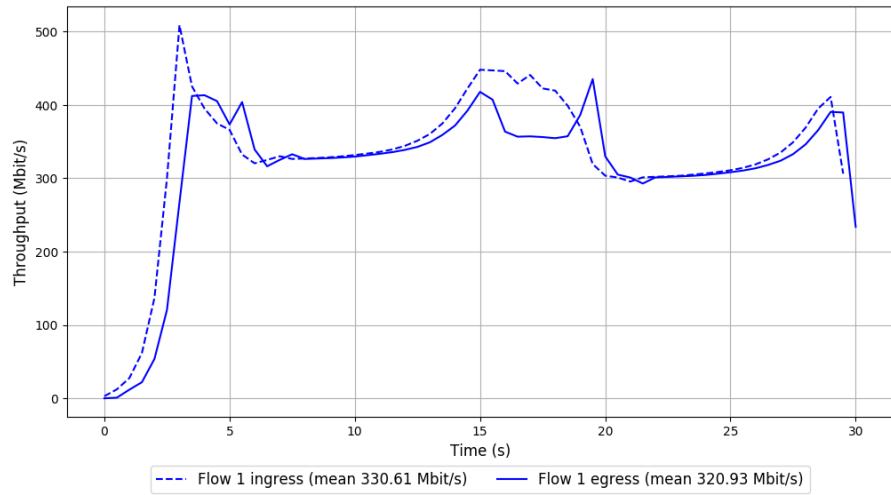


Run 2: Statistics of PCC-Expr

```
Start at: 2018-09-07 09:20:21
End at: 2018-09-07 09:20:51
Local clock offset: 9.463 ms
Remote clock offset: 14.765 ms

# Below is generated by plot.py at 2018-09-07 12:14:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 320.93 Mbit/s
95th percentile per-packet one-way delay: 186.043 ms
Loss rate: 3.49%
-- Flow 1:
Average throughput: 320.93 Mbit/s
95th percentile per-packet one-way delay: 186.043 ms
Loss rate: 3.49%
```

Run 2: Report of PCC-Expr — Data Link

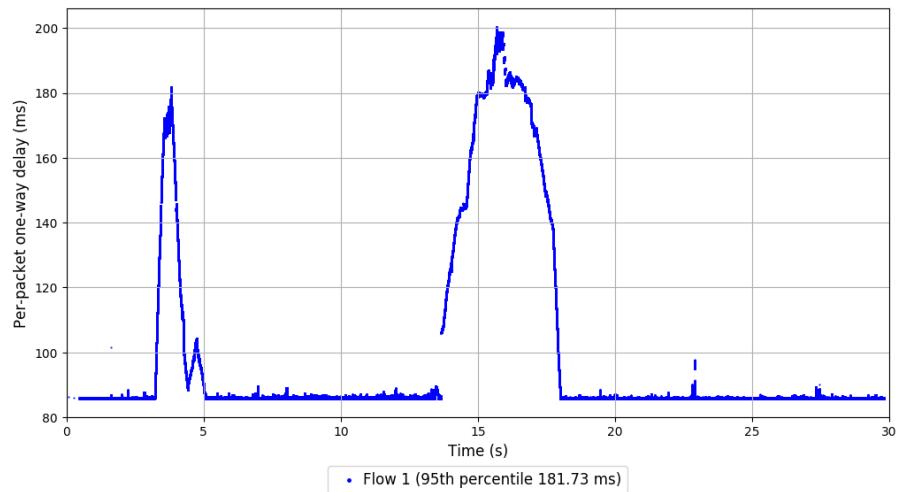
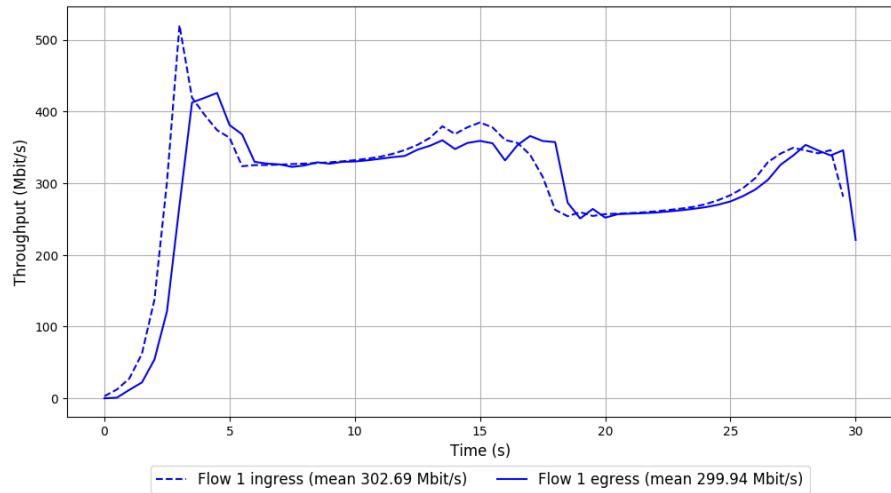


Run 3: Statistics of PCC-Expr

```
Start at: 2018-09-07 09:46:57
End at: 2018-09-07 09:47:27
Local clock offset: 3.893 ms
Remote clock offset: 7.865 ms

# Below is generated by plot.py at 2018-09-07 12:14:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 299.94 Mbit/s
95th percentile per-packet one-way delay: 181.734 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 299.94 Mbit/s
95th percentile per-packet one-way delay: 181.734 ms
Loss rate: 1.48%
```

Run 3: Report of PCC-Expr — Data Link

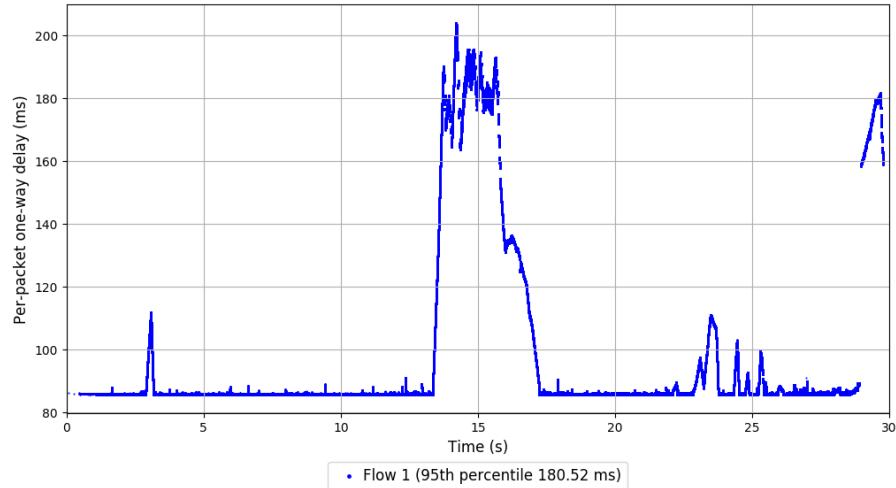
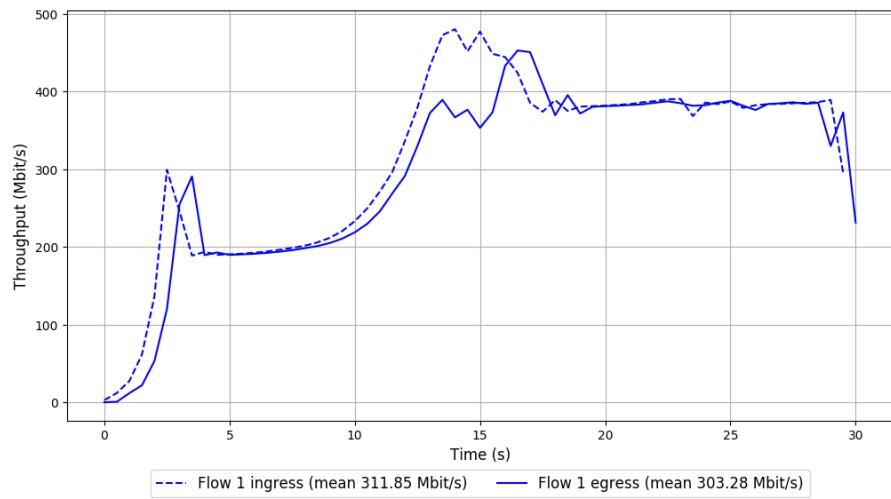


Run 4: Statistics of PCC-Expr

```
Start at: 2018-09-07 10:13:29
End at: 2018-09-07 10:13:59
Local clock offset: 2.816 ms
Remote clock offset: 5.966 ms

# Below is generated by plot.py at 2018-09-07 12:17:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 303.28 Mbit/s
95th percentile per-packet one-way delay: 180.522 ms
Loss rate: 3.31%
-- Flow 1:
Average throughput: 303.28 Mbit/s
95th percentile per-packet one-way delay: 180.522 ms
Loss rate: 3.31%
```

Run 4: Report of PCC-Expr — Data Link

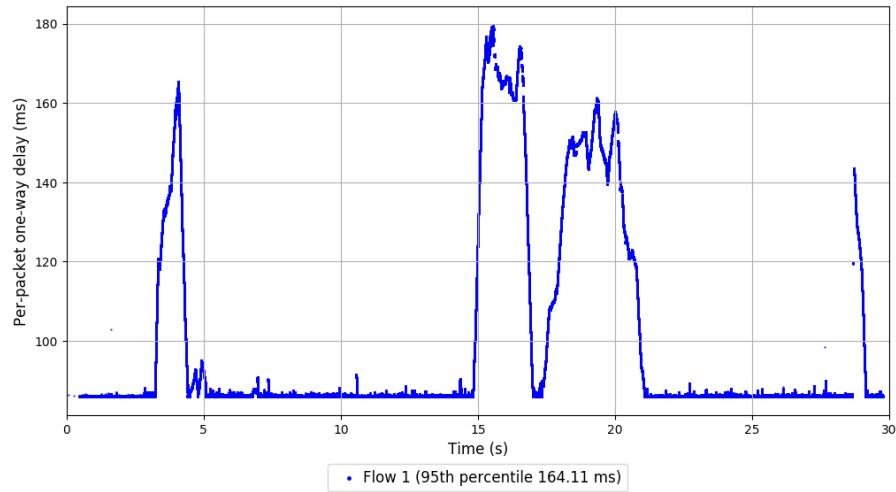
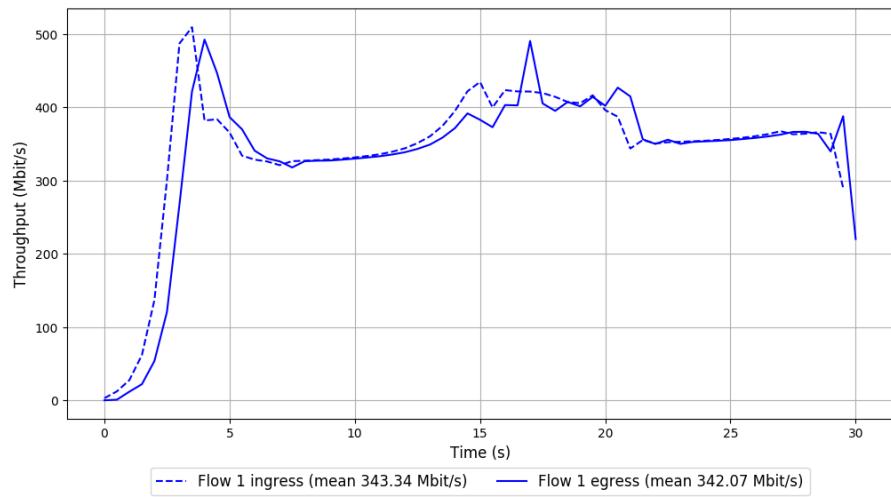


Run 5: Statistics of PCC-Expr

```
Start at: 2018-09-07 10:39:55
End at: 2018-09-07 10:40:25
Local clock offset: 2.052 ms
Remote clock offset: 4.22 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 342.07 Mbit/s
95th percentile per-packet one-way delay: 164.106 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 342.07 Mbit/s
95th percentile per-packet one-way delay: 164.106 ms
Loss rate: 0.95%
```

Run 5: Report of PCC-Expr — Data Link

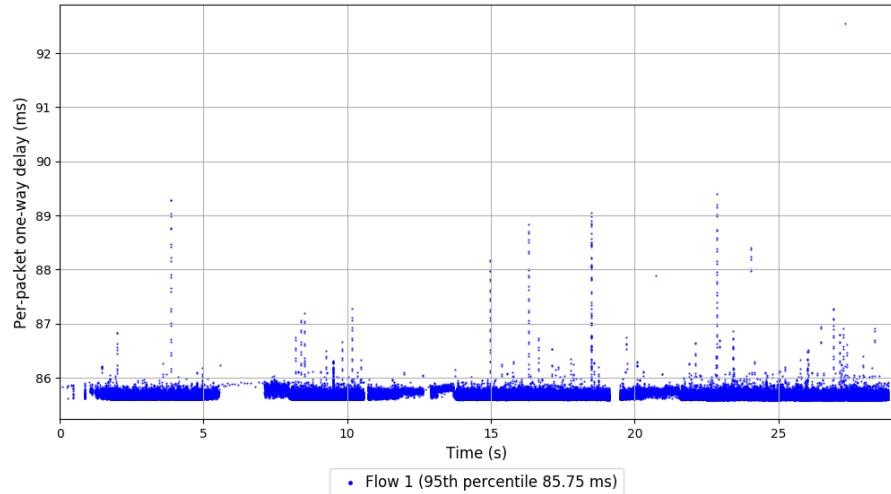
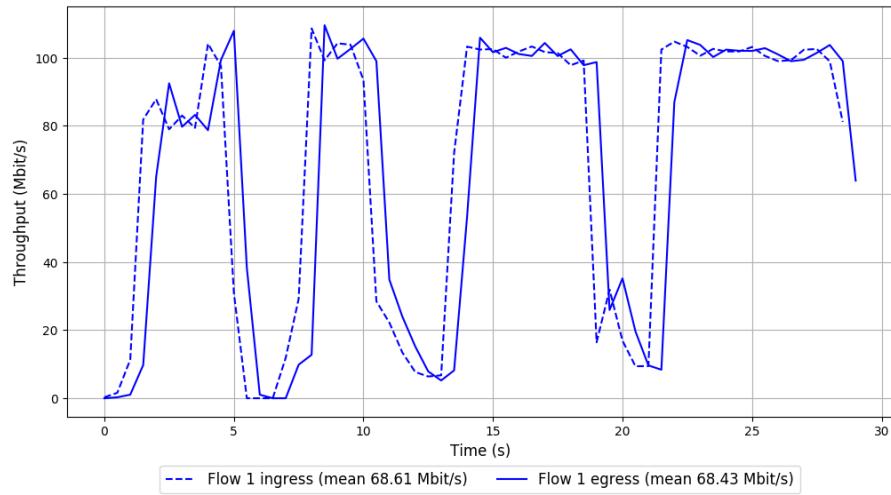


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-09-07 08:59:18
End at: 2018-09-07 08:59:48
Local clock offset: 39.458 ms
Remote clock offset: 37.749 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.43 Mbit/s
95th percentile per-packet one-way delay: 85.747 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 68.43 Mbit/s
95th percentile per-packet one-way delay: 85.747 ms
Loss rate: 0.86%
```

Run 1: Report of QUIC Cubic — Data Link

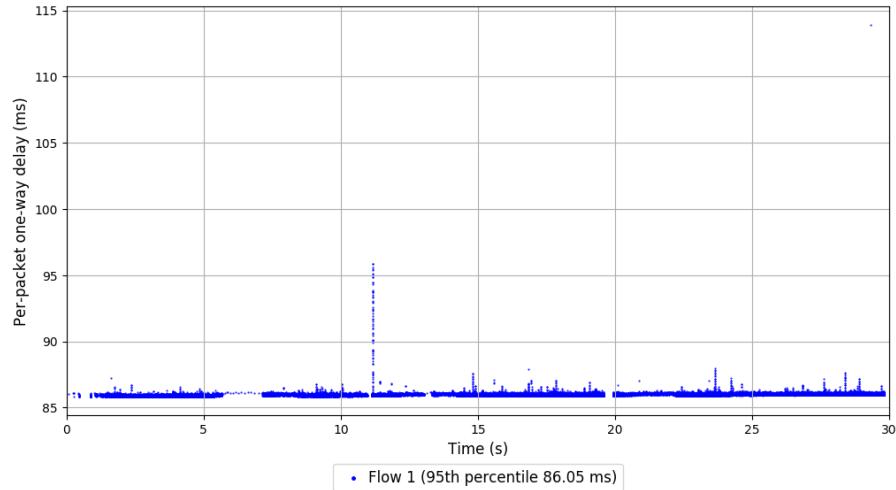
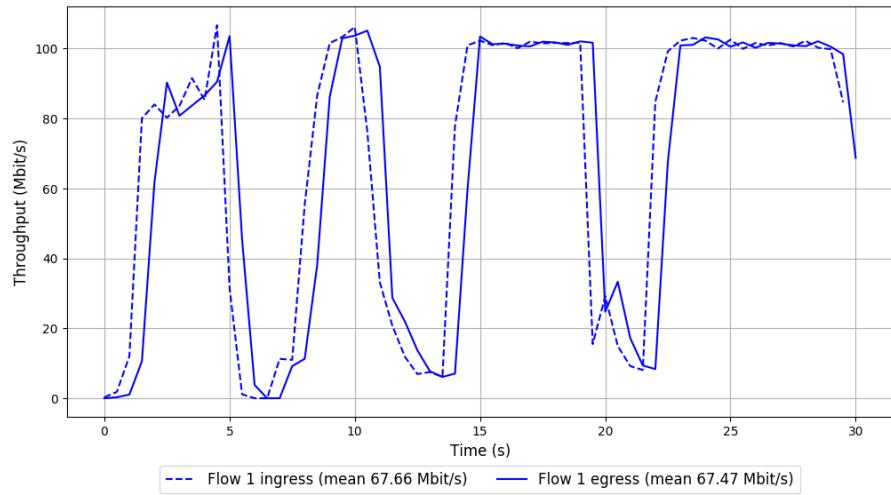


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-09-07 09:25:44
End at: 2018-09-07 09:26:14
Local clock offset: 9.079 ms
Remote clock offset: 16.029 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.47 Mbit/s
95th percentile per-packet one-way delay: 86.048 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 67.47 Mbit/s
95th percentile per-packet one-way delay: 86.048 ms
Loss rate: 0.85%
```

Run 2: Report of QUIC Cubic — Data Link

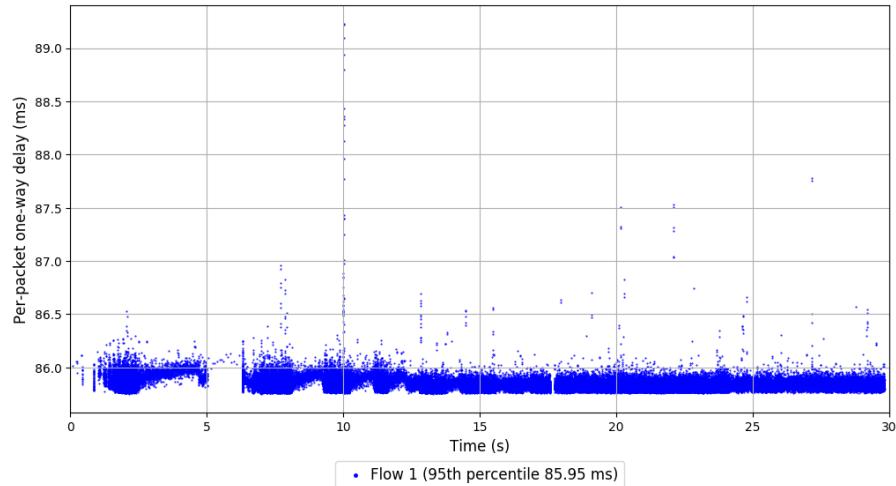
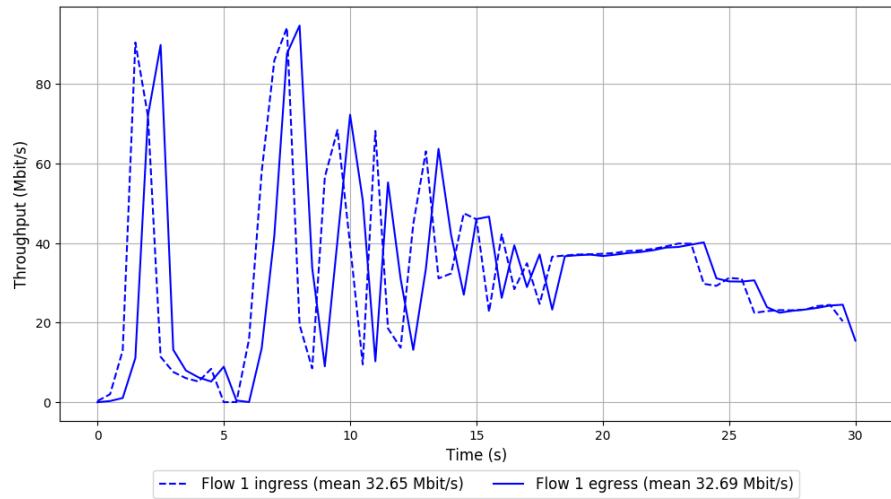


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-09-07 09:52:19
End at: 2018-09-07 09:52:49
Local clock offset: 3.406 ms
Remote clock offset: 7.191 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 32.69 Mbit/s
95th percentile per-packet one-way delay: 85.950 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 32.69 Mbit/s
95th percentile per-packet one-way delay: 85.950 ms
Loss rate: 0.46%
```

Run 3: Report of QUIC Cubic — Data Link

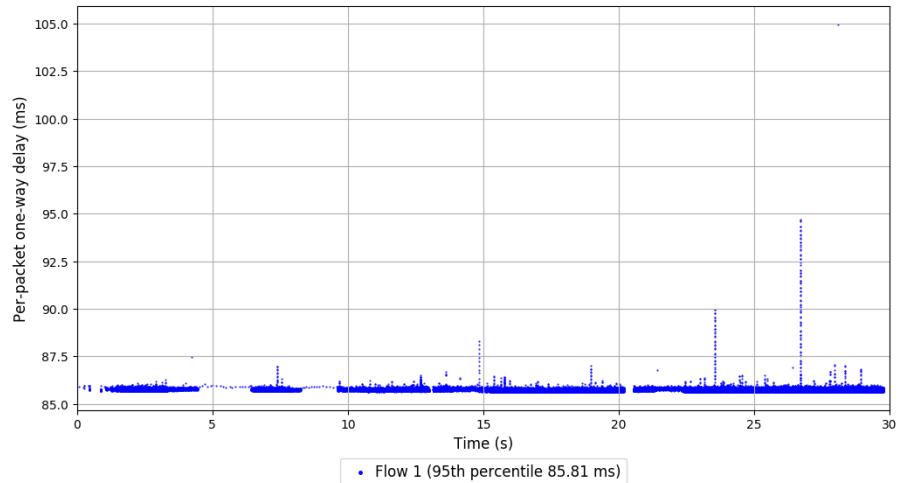
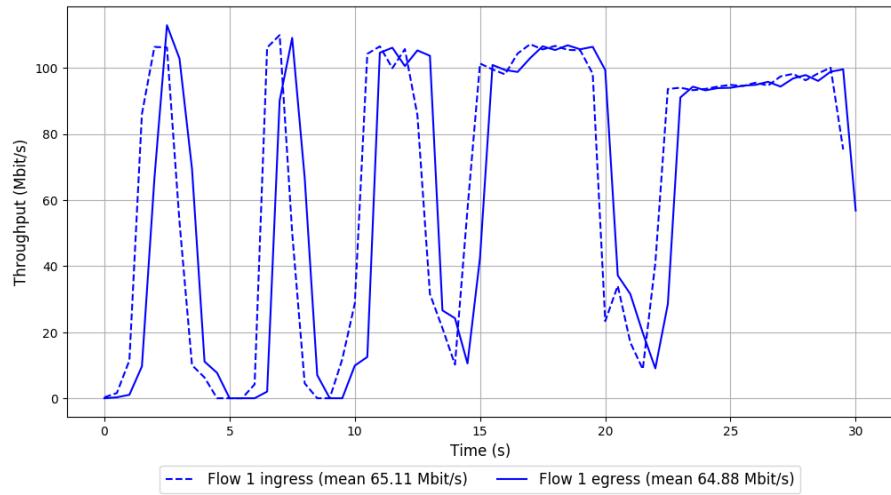


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-09-07 10:18:47
End at: 2018-09-07 10:19:17
Local clock offset: 1.851 ms
Remote clock offset: 4.18 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.88 Mbit/s
95th percentile per-packet one-way delay: 85.807 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 64.88 Mbit/s
95th percentile per-packet one-way delay: 85.807 ms
Loss rate: 0.92%
```

Run 4: Report of QUIC Cubic — Data Link

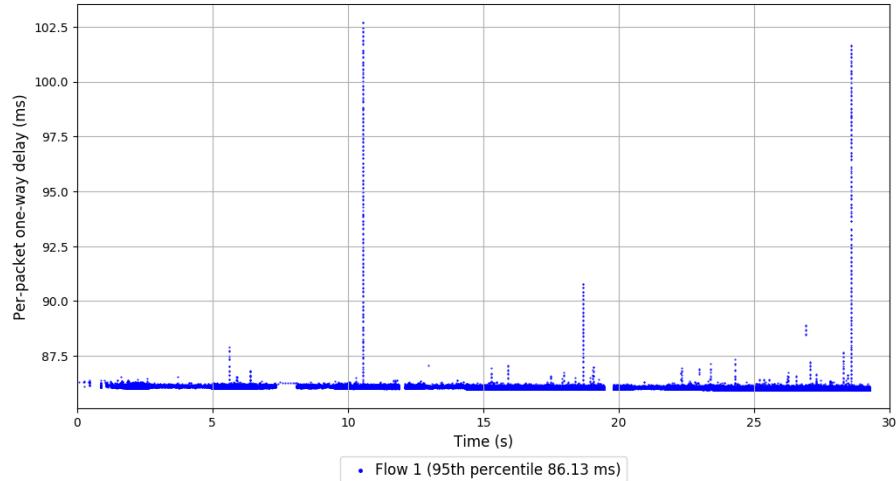
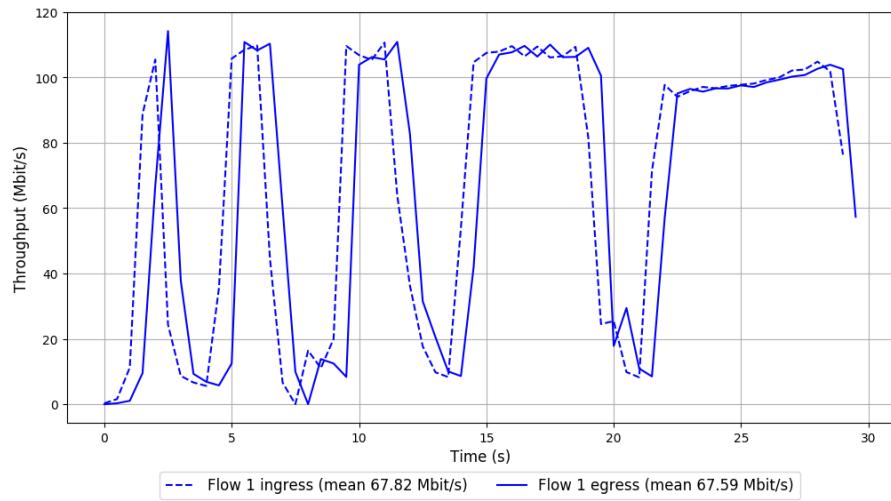


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-09-07 10:45:19
End at: 2018-09-07 10:45:49
Local clock offset: 1.598 ms
Remote clock offset: 3.452 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.59 Mbit/s
95th percentile per-packet one-way delay: 86.131 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 67.59 Mbit/s
95th percentile per-packet one-way delay: 86.131 ms
Loss rate: 0.93%
```

Run 5: Report of QUIC Cubic — Data Link

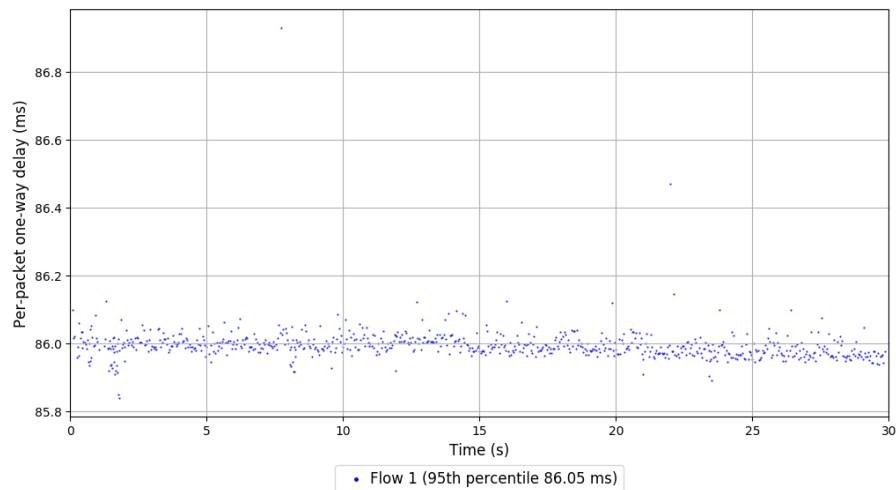
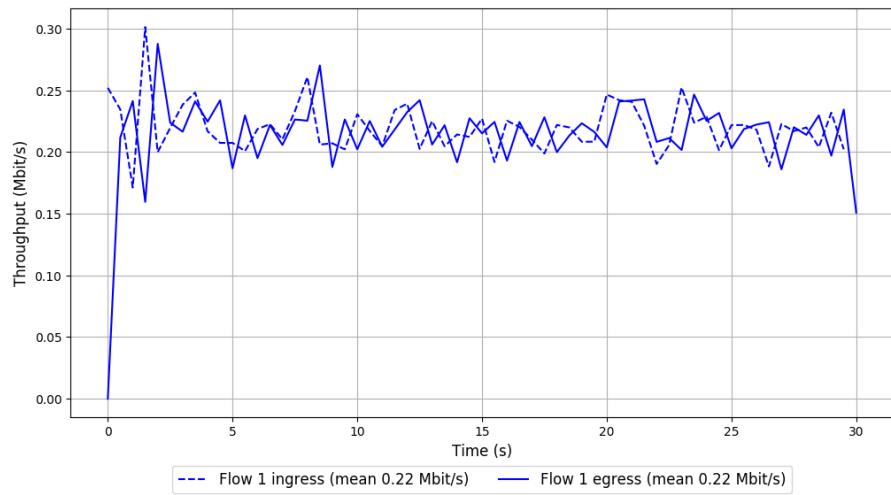


Run 1: Statistics of SCReAM

```
Start at: 2018-09-07 08:57:01
End at: 2018-09-07 08:57:31
Local clock offset: 37.007 ms
Remote clock offset: 35.506 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.046 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.046 ms
Loss rate: 0.64%
```

Run 1: Report of SCReAM — Data Link

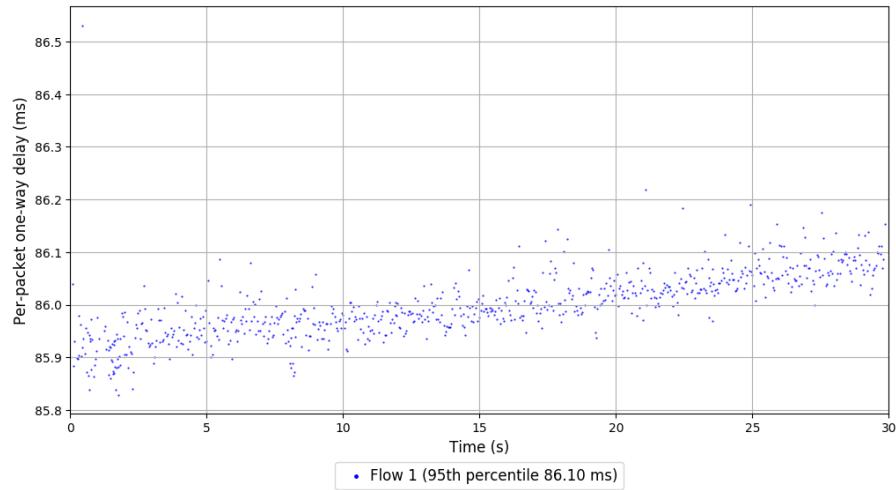
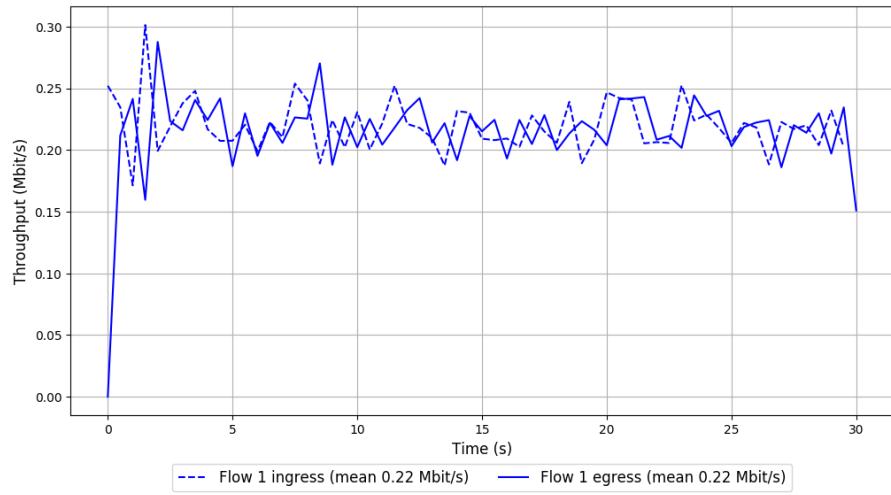


Run 2: Statistics of SCReAM

```
Start at: 2018-09-07 09:23:27
End at: 2018-09-07 09:23:57
Local clock offset: 8.886 ms
Remote clock offset: 15.38 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.097 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.097 ms
Loss rate: 0.64%
```

Run 2: Report of SCReAM — Data Link

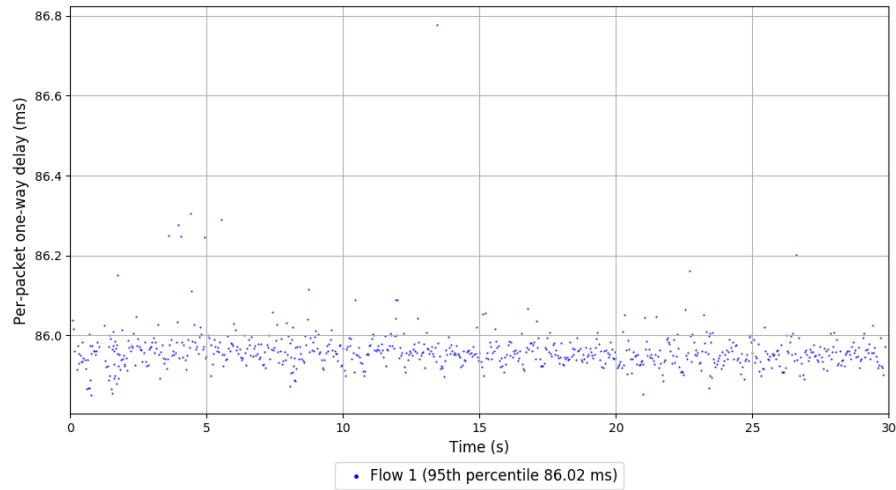
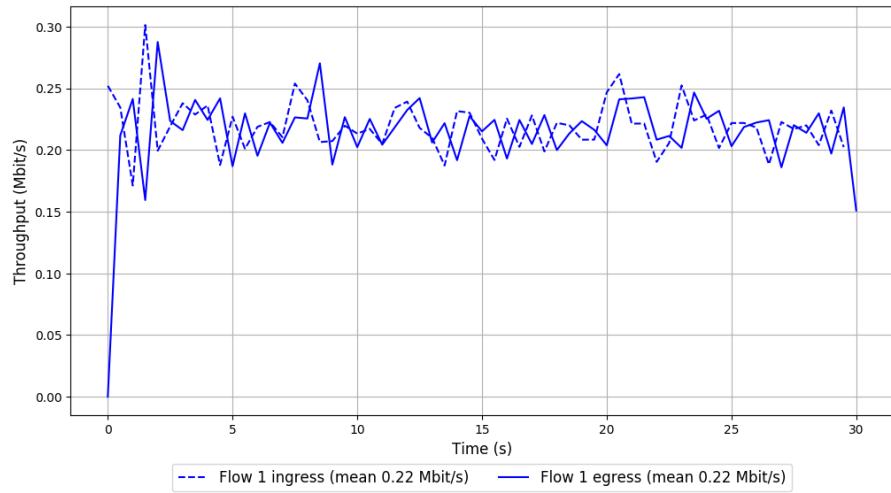


Run 3: Statistics of SCReAM

```
Start at: 2018-09-07 09:50:02
End at: 2018-09-07 09:50:32
Local clock offset: 3.488 ms
Remote clock offset: 7.324 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.021 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.021 ms
Loss rate: 0.64%
```

Run 3: Report of SCReAM — Data Link

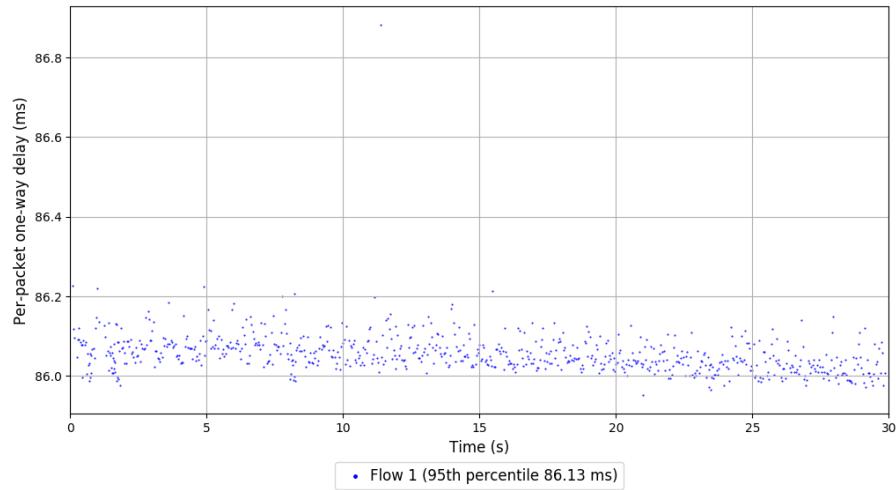
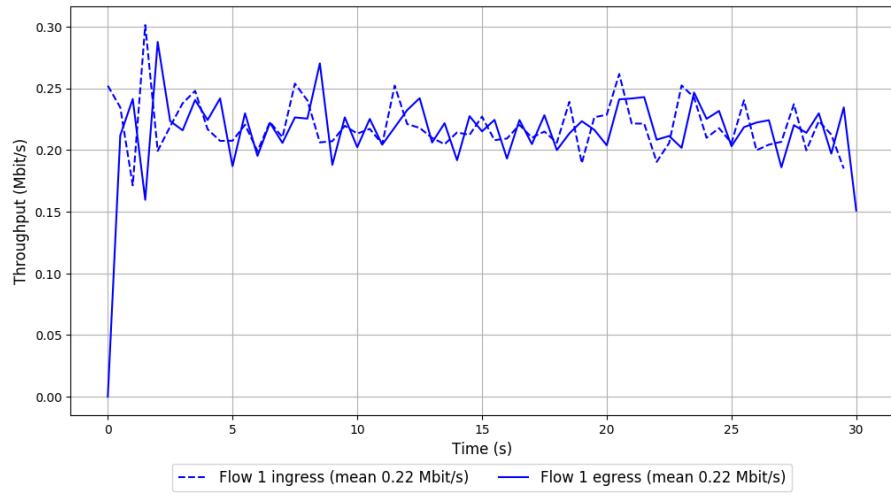


Run 4: Statistics of SCReAM

```
Start at: 2018-09-07 10:16:29
End at: 2018-09-07 10:16:59
Local clock offset: 2.262 ms
Remote clock offset: 4.738 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.133 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.133 ms
Loss rate: 0.51%
```

Run 4: Report of SCReAM — Data Link

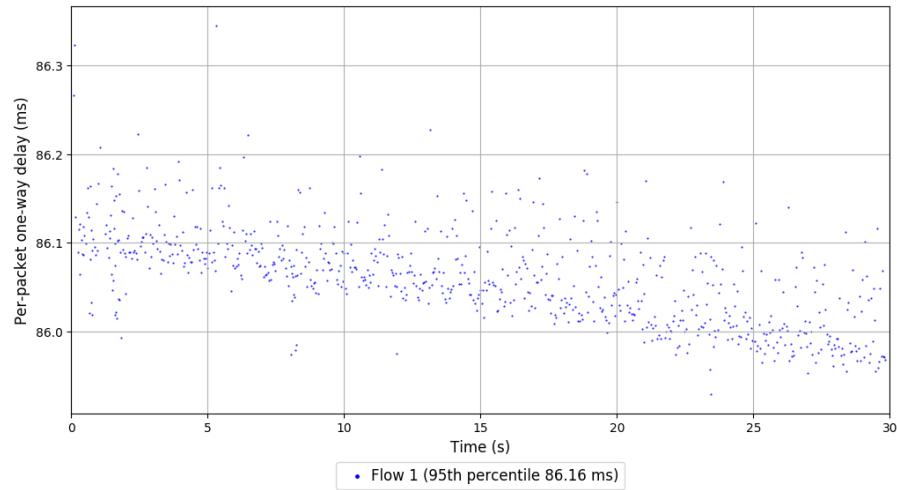
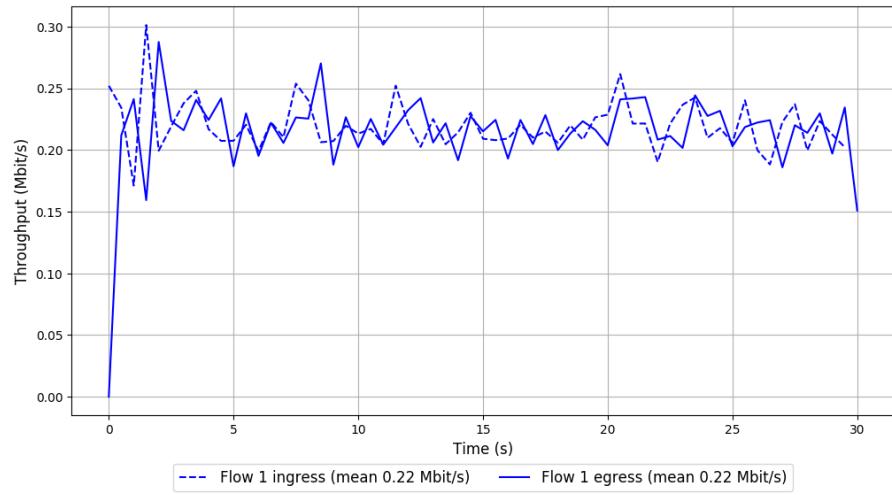


Run 5: Statistics of SCReAM

```
Start at: 2018-09-07 10:43:02
End at: 2018-09-07 10:43:32
Local clock offset: 2.105 ms
Remote clock offset: 4.342 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.157 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.157 ms
Loss rate: 0.64%
```

Run 5: Report of SCReAM — Data Link

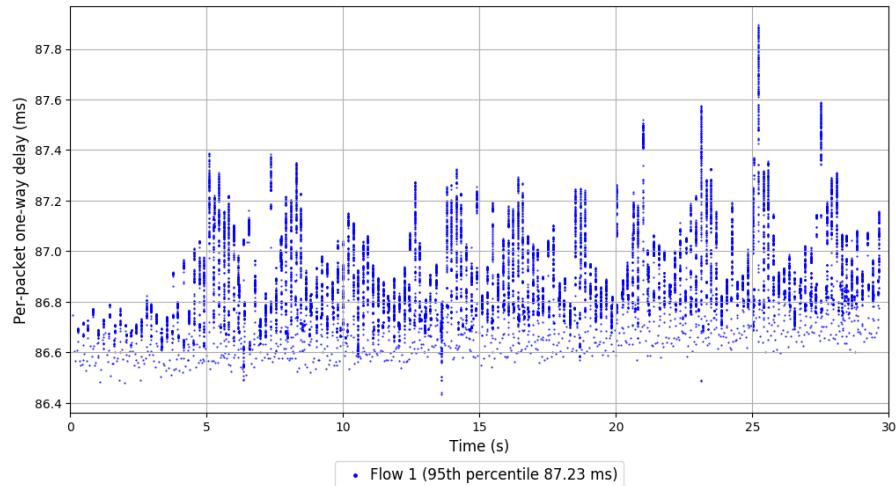
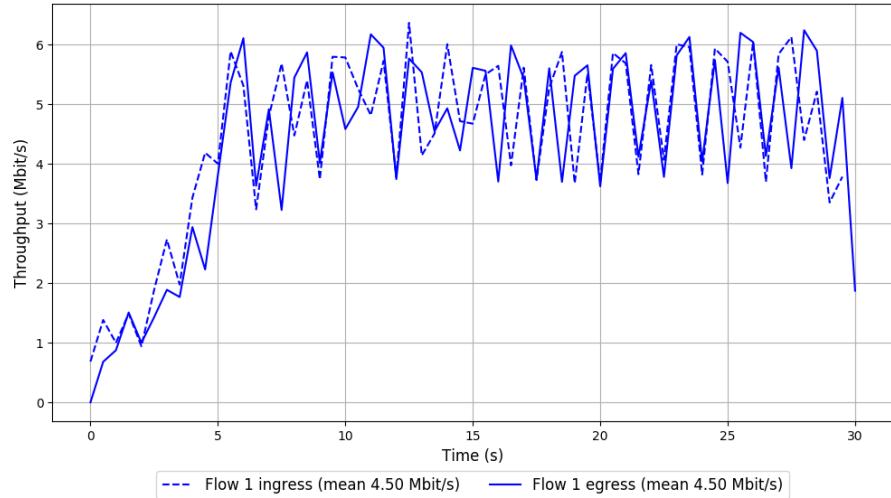


Run 1: Statistics of Sprout

```
Start at: 2018-09-07 09:08:18
End at: 2018-09-07 09:08:48
Local clock offset: 17.952 ms
Remote clock offset: 19.68 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.50 Mbit/s
95th percentile per-packet one-way delay: 87.231 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 4.50 Mbit/s
95th percentile per-packet one-way delay: 87.231 ms
Loss rate: 0.72%
```

Run 1: Report of Sprout — Data Link

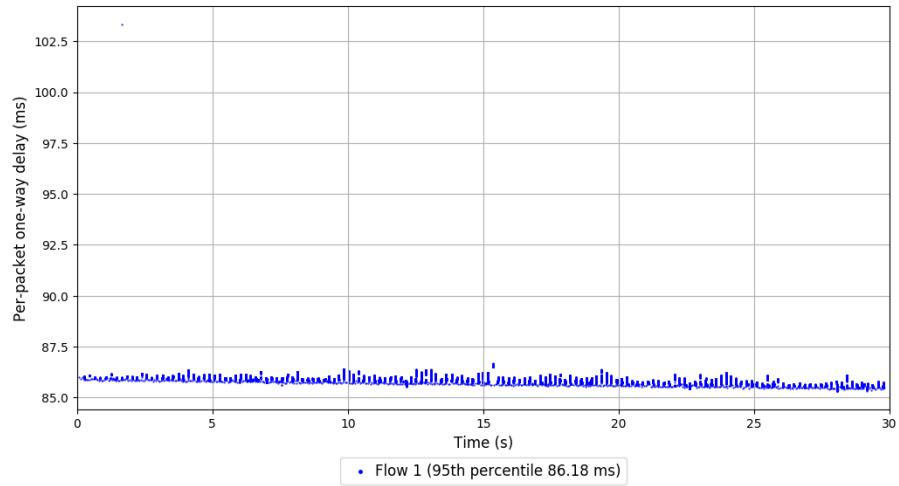
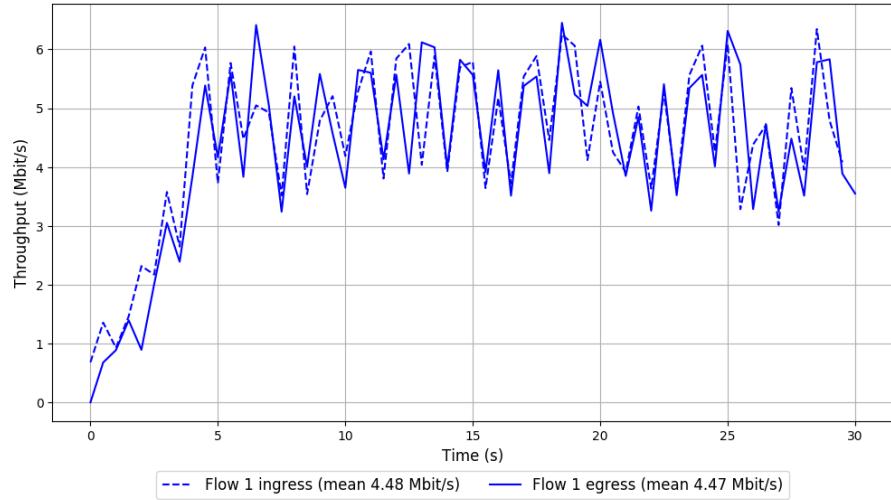


Run 2: Statistics of Sprout

```
Start at: 2018-09-07 09:34:55
End at: 2018-09-07 09:35:25
Local clock offset: 9.348 ms
Remote clock offset: 18.706 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.47 Mbit/s
95th percentile per-packet one-way delay: 86.183 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 4.47 Mbit/s
95th percentile per-packet one-way delay: 86.183 ms
Loss rate: 0.73%
```

Run 2: Report of Sprout — Data Link

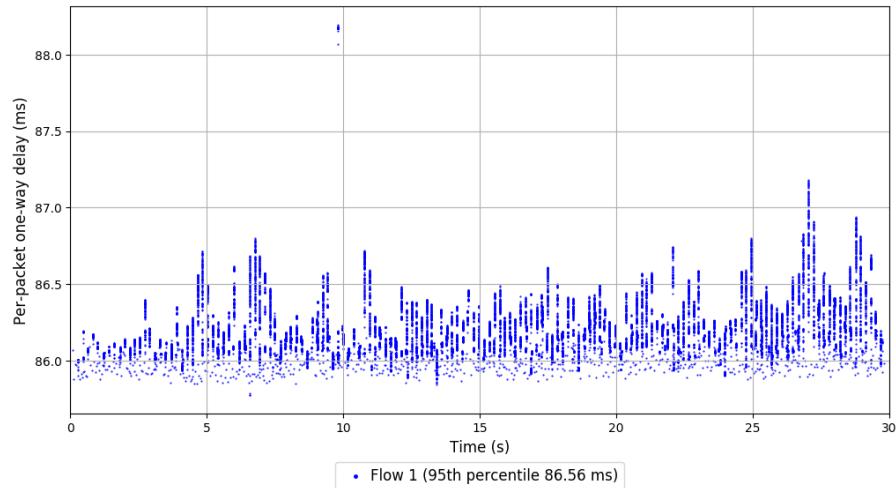
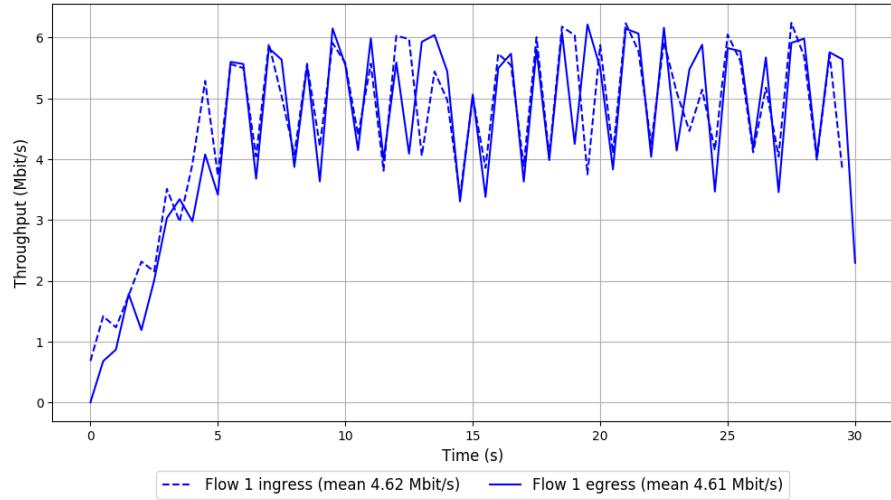


Run 3: Statistics of Sprout

```
Start at: 2018-09-07 10:01:24
End at: 2018-09-07 10:01:54
Local clock offset: 3.726 ms
Remote clock offset: 7.987 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 86.558 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 86.558 ms
Loss rate: 0.64%
```

Run 3: Report of Sprout — Data Link

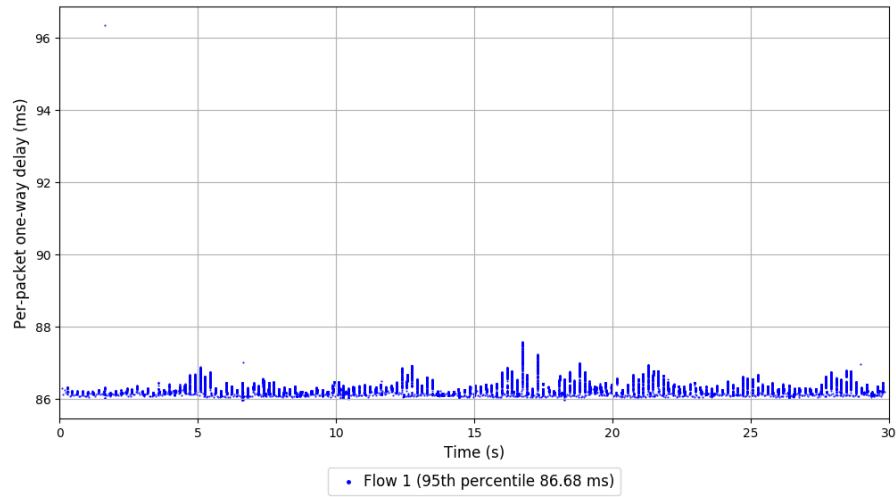
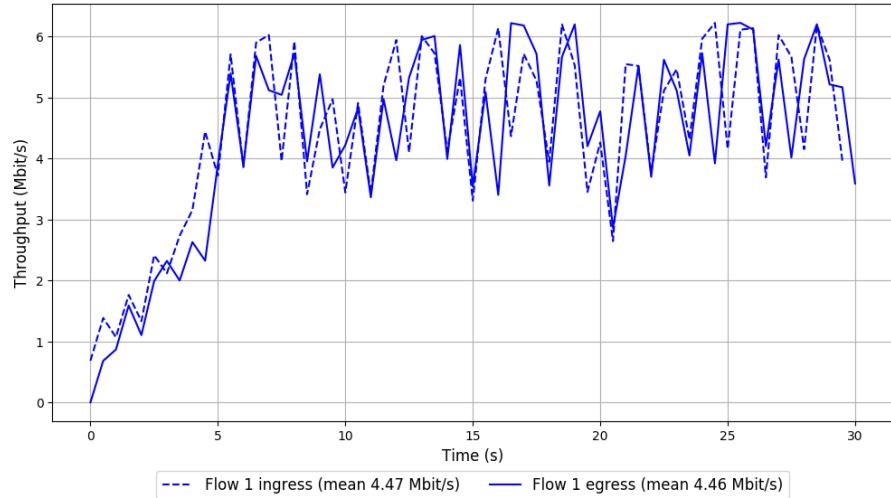


Run 4: Statistics of Sprout

```
Start at: 2018-09-07 10:27:52
End at: 2018-09-07 10:28:22
Local clock offset: 1.747 ms
Remote clock offset: 3.451 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 86.681 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 86.681 ms
Loss rate: 0.67%
```

Run 4: Report of Sprout — Data Link

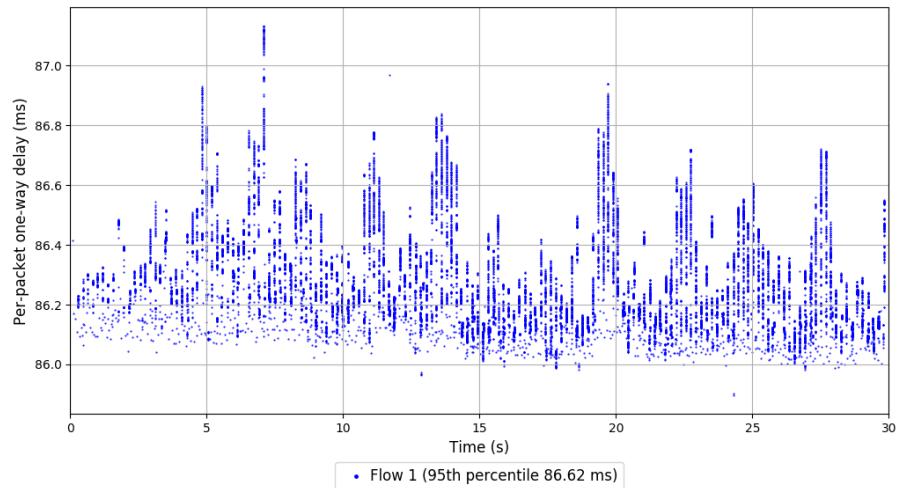
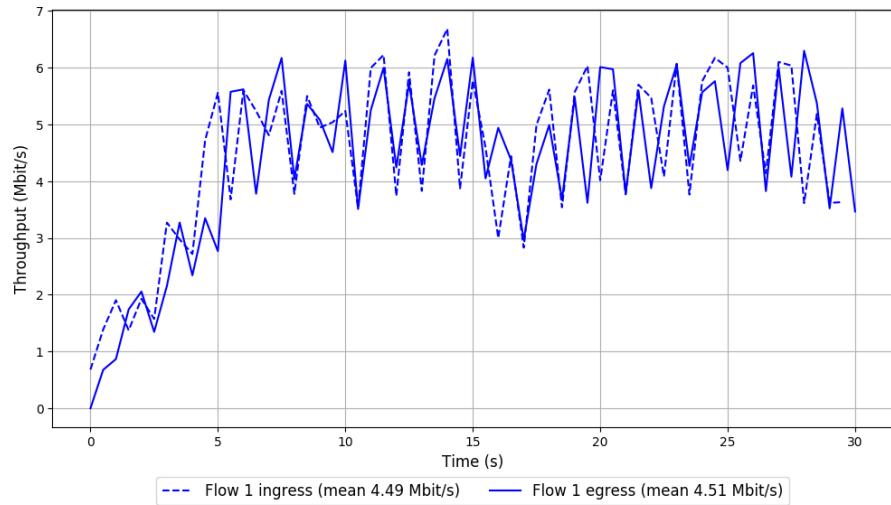


Run 5: Statistics of Sprout

```
Start at: 2018-09-07 10:54:27
End at: 2018-09-07 10:54:57
Local clock offset: 0.917 ms
Remote clock offset: 1.506 ms

# Below is generated by plot.py at 2018-09-07 12:18:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.51 Mbit/s
95th percentile per-packet one-way delay: 86.620 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 4.51 Mbit/s
95th percentile per-packet one-way delay: 86.620 ms
Loss rate: 0.06%
```

Run 5: Report of Sprout — Data Link

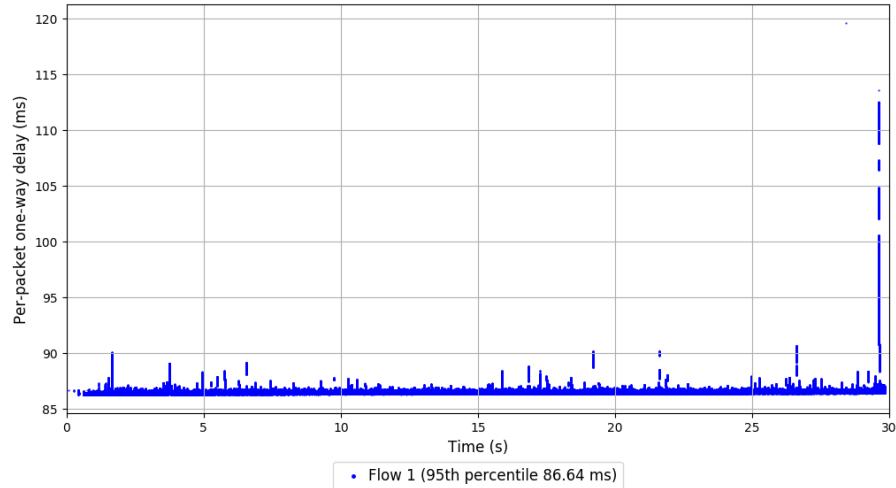
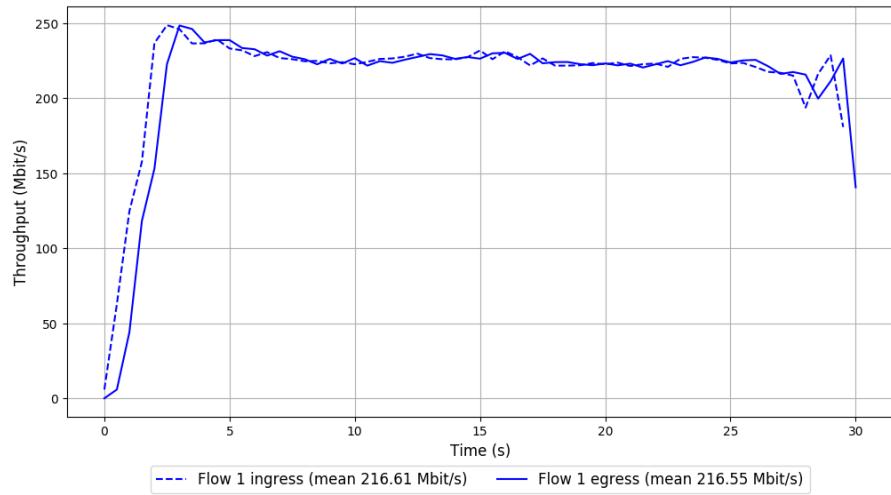


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-09-07 09:01:57
End at: 2018-09-07 09:02:27
Local clock offset: 33.007 ms
Remote clock offset: 33.145 ms

# Below is generated by plot.py at 2018-09-07 12:19:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 216.55 Mbit/s
95th percentile per-packet one-way delay: 86.645 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 216.55 Mbit/s
95th percentile per-packet one-way delay: 86.645 ms
Loss rate: 0.60%
```

Run 1: Report of TaoVA-100x — Data Link

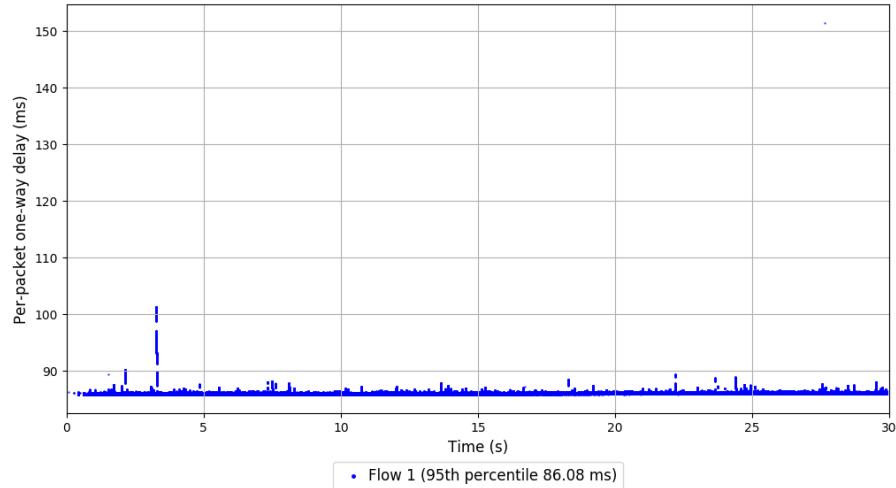
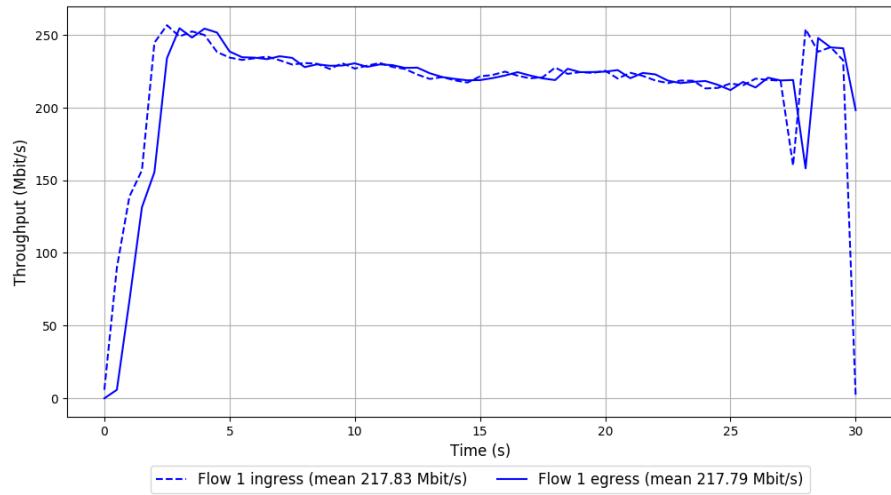


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-09-07 09:28:36
End at: 2018-09-07 09:29:06
Local clock offset: 9.234 ms
Remote clock offset: 17.004 ms

# Below is generated by plot.py at 2018-09-07 12:19:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 217.79 Mbit/s
95th percentile per-packet one-way delay: 86.080 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 217.79 Mbit/s
95th percentile per-packet one-way delay: 86.080 ms
Loss rate: 0.60%
```

Run 2: Report of TaoVA-100x — Data Link

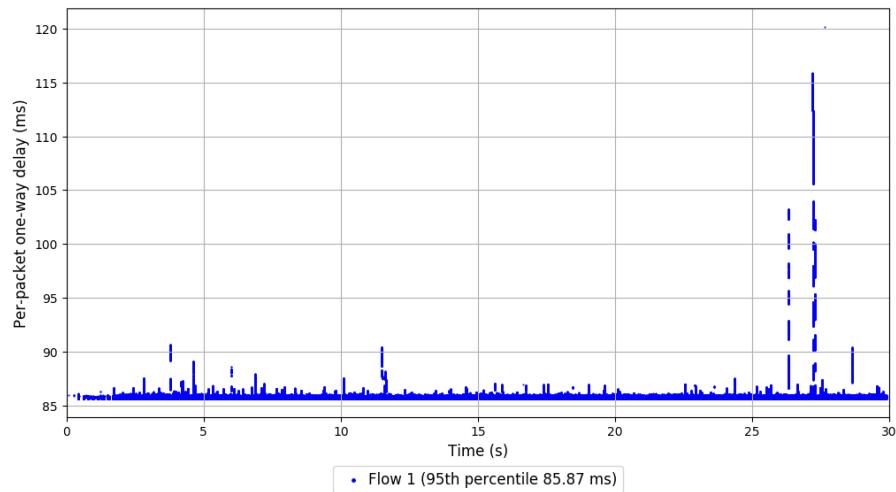
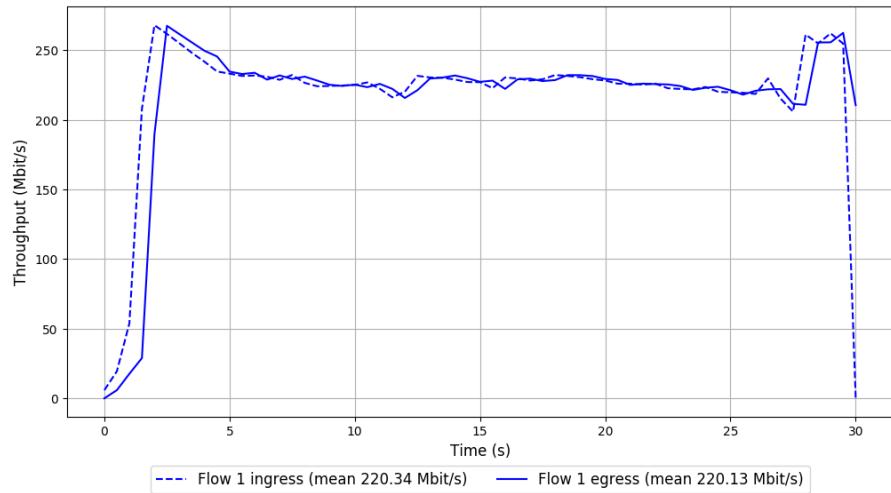


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-09-07 09:55:11
End at: 2018-09-07 09:55:41
Local clock offset: 3.312 ms
Remote clock offset: 7.284 ms

# Below is generated by plot.py at 2018-09-07 12:19:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 220.13 Mbit/s
95th percentile per-packet one-way delay: 85.873 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 220.13 Mbit/s
95th percentile per-packet one-way delay: 85.873 ms
Loss rate: 0.67%
```

Run 3: Report of TaoVA-100x — Data Link

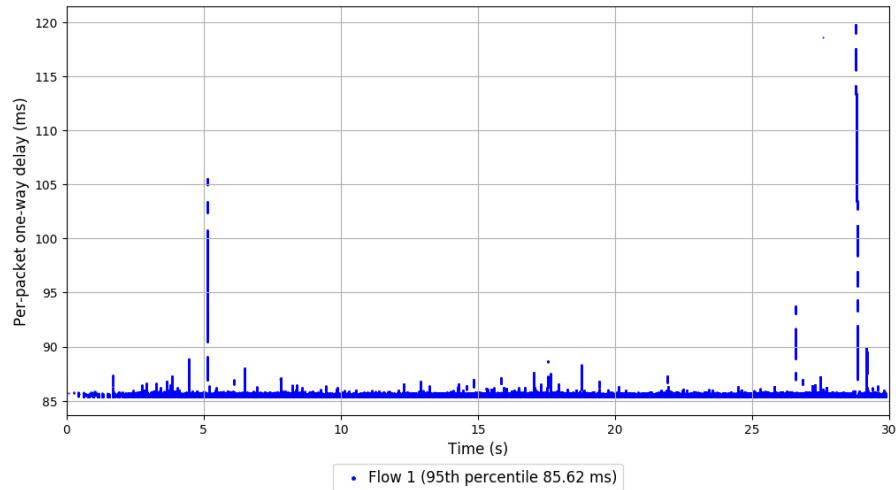
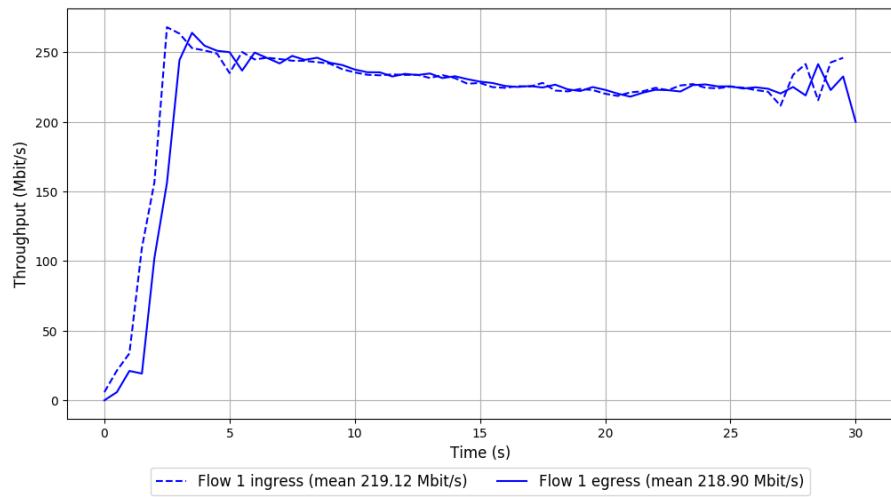


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-09-07 10:21:35
End at: 2018-09-07 10:22:05
Local clock offset: 1.511 ms
Remote clock offset: 3.732 ms

# Below is generated by plot.py at 2018-09-07 12:19:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 218.90 Mbit/s
95th percentile per-packet one-way delay: 85.619 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 218.90 Mbit/s
95th percentile per-packet one-way delay: 85.619 ms
Loss rate: 0.67%
```

Run 4: Report of TaoVA-100x — Data Link

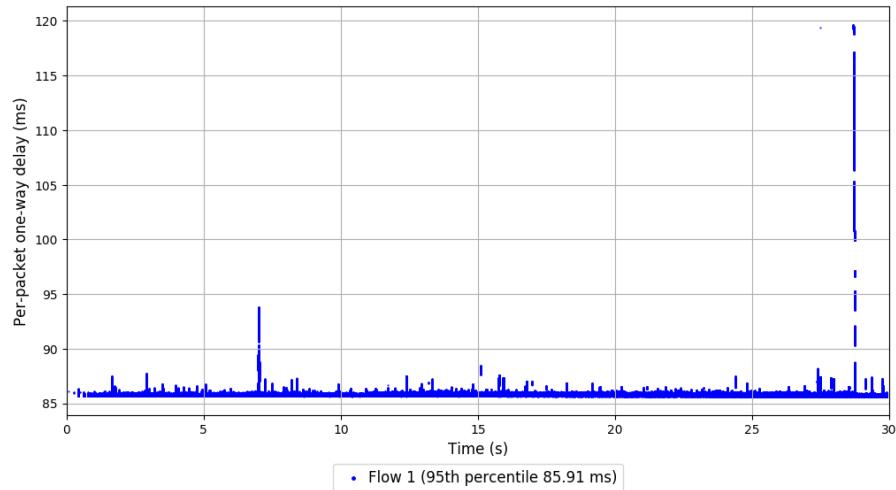
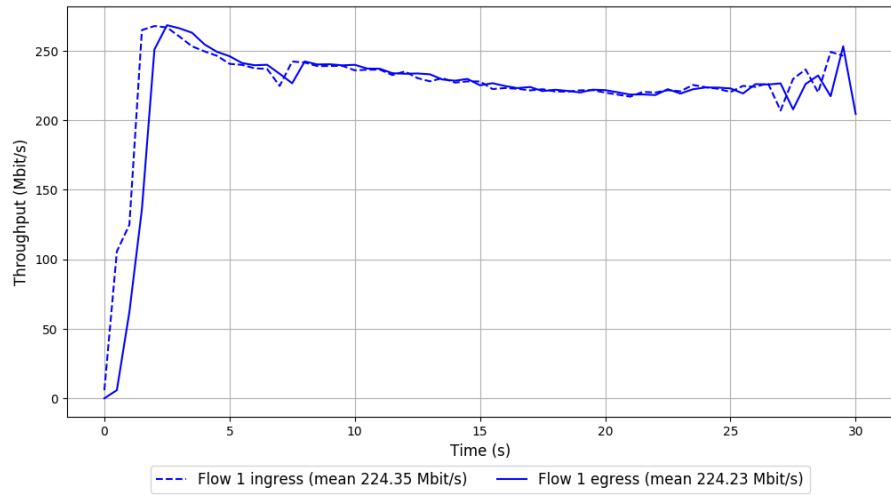


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-09-07 10:48:11
End at: 2018-09-07 10:48:41
Local clock offset: 1.295 ms
Remote clock offset: 2.53 ms

# Below is generated by plot.py at 2018-09-07 12:20:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 224.23 Mbit/s
95th percentile per-packet one-way delay: 85.913 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 224.23 Mbit/s
95th percentile per-packet one-way delay: 85.913 ms
Loss rate: 0.63%
```

Run 5: Report of TaoVA-100x — Data Link

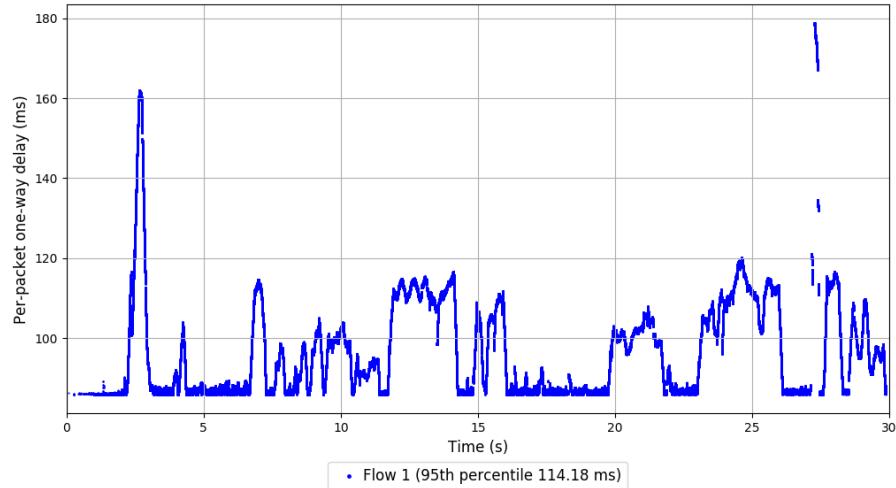
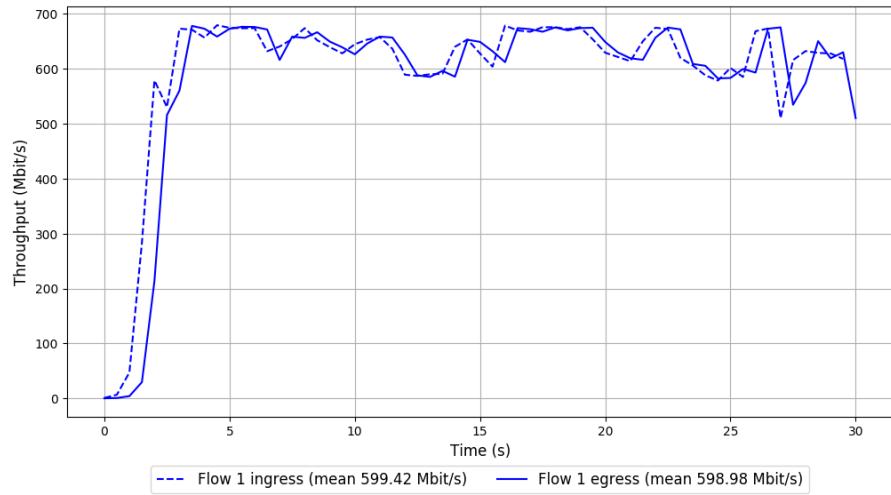


Run 1: Statistics of TCP Vegas

```
Start at: 2018-09-07 09:06:40
End at: 2018-09-07 09:07:10
Local clock offset: 20.422 ms
Remote clock offset: 22.192 ms

# Below is generated by plot.py at 2018-09-07 12:25:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 598.98 Mbit/s
95th percentile per-packet one-way delay: 114.177 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 598.98 Mbit/s
95th percentile per-packet one-way delay: 114.177 ms
Loss rate: 0.65%
```

Run 1: Report of TCP Vegas — Data Link

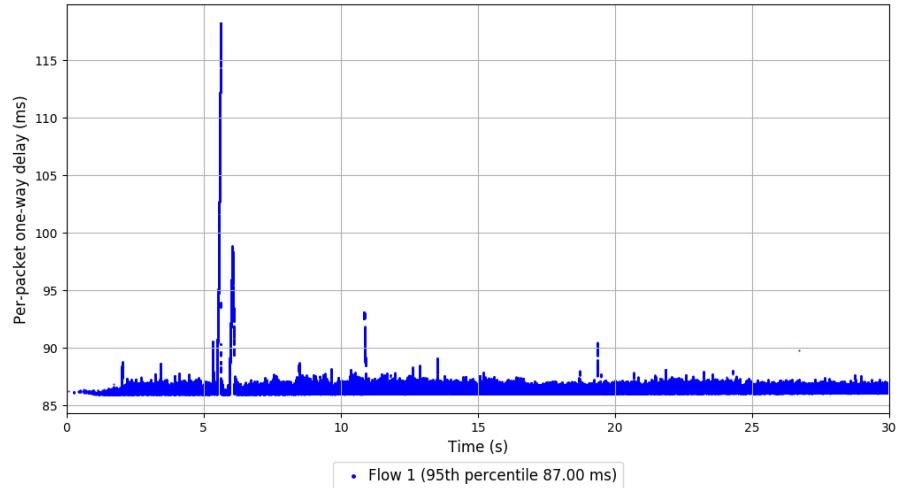
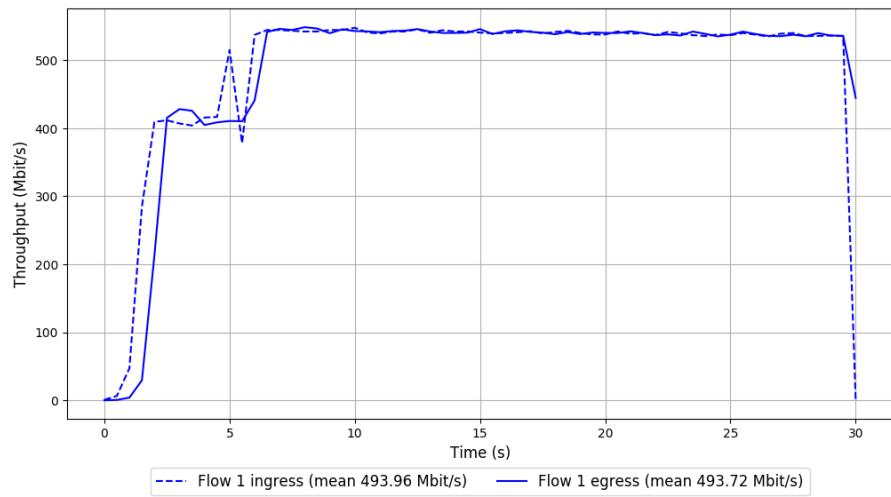


Run 2: Statistics of TCP Vegas

```
Start at: 2018-09-07 09:33:23
End at: 2018-09-07 09:33:53
Local clock offset: 10.157 ms
Remote clock offset: 19.089 ms

# Below is generated by plot.py at 2018-09-07 12:25:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 493.72 Mbit/s
95th percentile per-packet one-way delay: 87.002 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 493.72 Mbit/s
95th percentile per-packet one-way delay: 87.002 ms
Loss rate: 0.62%
```

Run 2: Report of TCP Vegas — Data Link

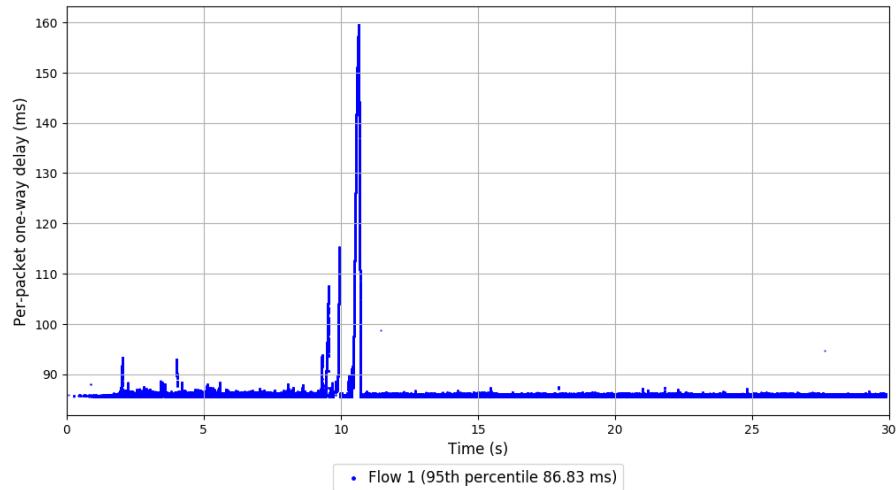
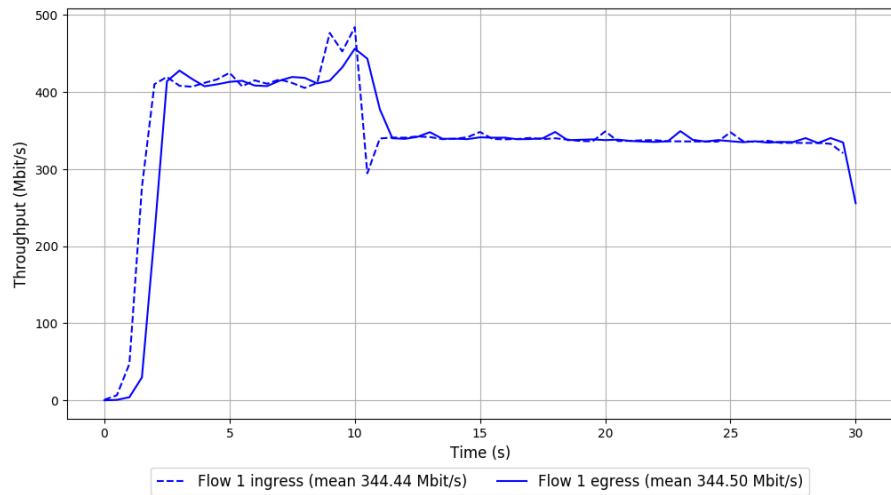


Run 3: Statistics of TCP Vegas

```
Start at: 2018-09-07 09:59:58
End at: 2018-09-07 10:00:28
Local clock offset: 3.484 ms
Remote clock offset: 7.811 ms

# Below is generated by plot.py at 2018-09-07 12:25:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 344.50 Mbit/s
95th percentile per-packet one-way delay: 86.825 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 344.50 Mbit/s
95th percentile per-packet one-way delay: 86.825 ms
Loss rate: 0.56%
```

Run 3: Report of TCP Vegas — Data Link

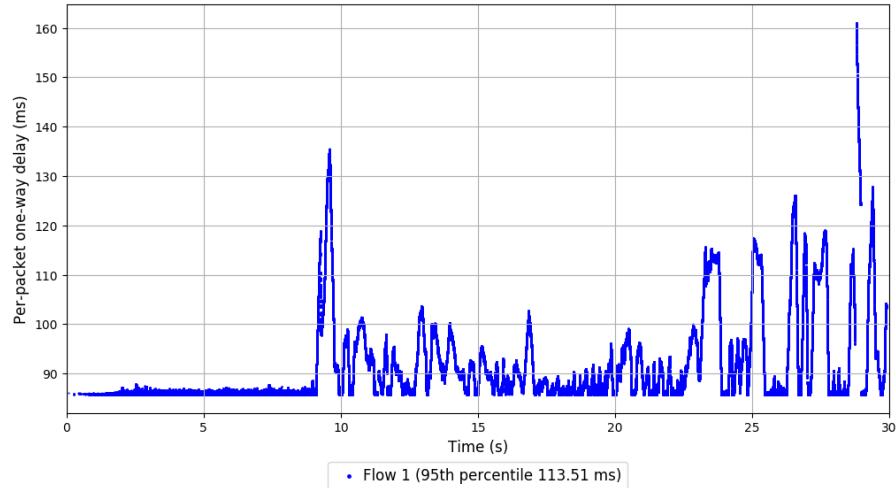
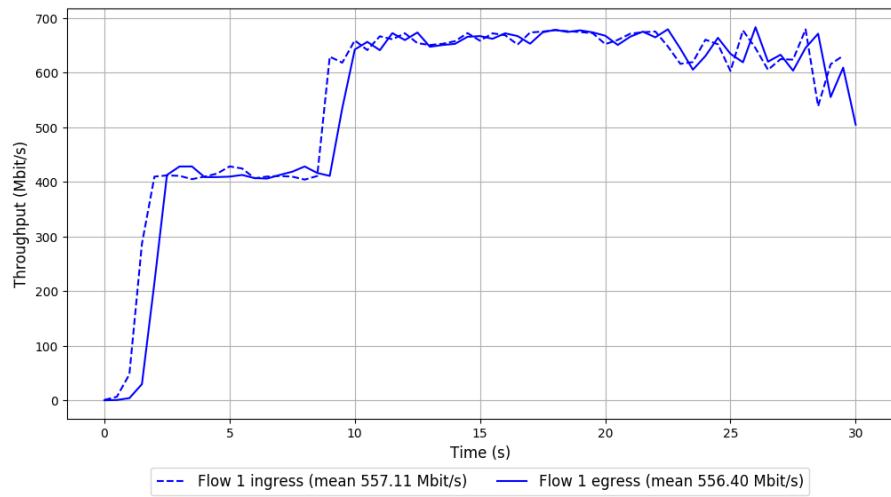


Run 4: Statistics of TCP Vegas

```
Start at: 2018-09-07 10:26:15
End at: 2018-09-07 10:26:45
Local clock offset: 1.642 ms
Remote clock offset: 3.43 ms

# Below is generated by plot.py at 2018-09-07 12:28:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 556.40 Mbit/s
95th percentile per-packet one-way delay: 113.507 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 556.40 Mbit/s
95th percentile per-packet one-way delay: 113.507 ms
Loss rate: 0.70%
```

Run 4: Report of TCP Vegas — Data Link

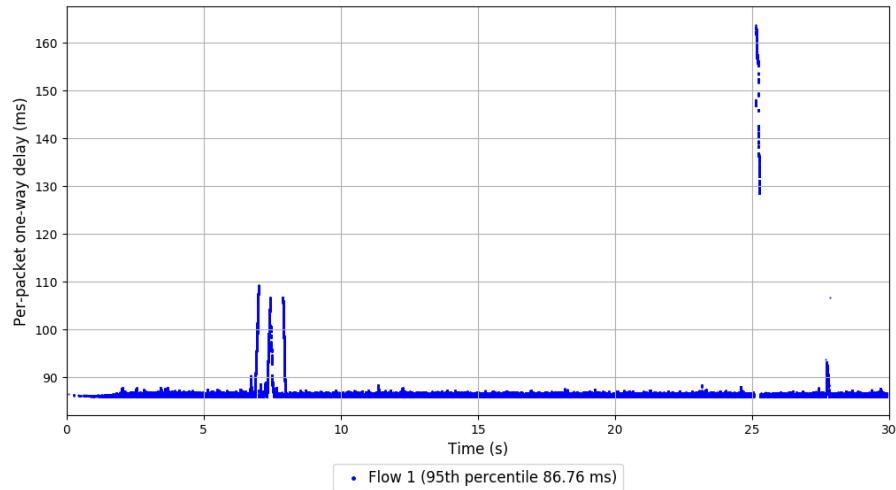
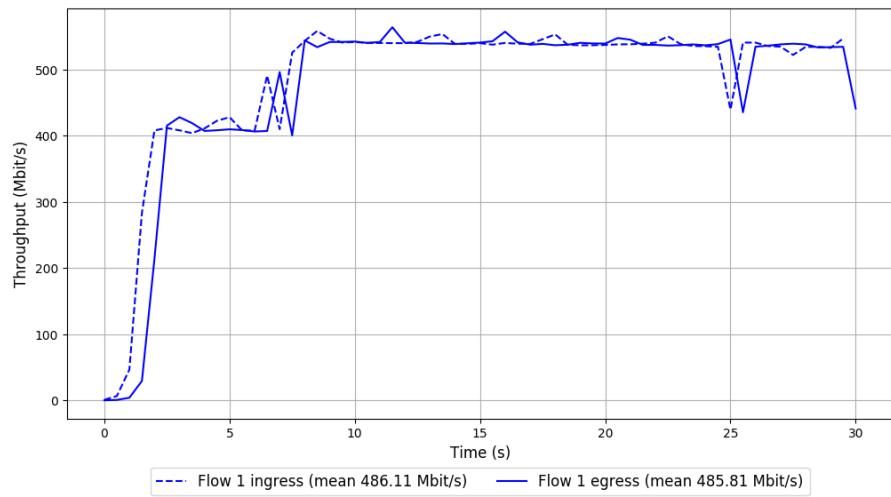


Run 5: Statistics of TCP Vegas

```
Start at: 2018-09-07 10:52:55
End at: 2018-09-07 10:53:25
Local clock offset: 1.091 ms
Remote clock offset: 1.642 ms

# Below is generated by plot.py at 2018-09-07 12:28:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 485.81 Mbit/s
95th percentile per-packet one-way delay: 86.762 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 485.81 Mbit/s
95th percentile per-packet one-way delay: 86.762 ms
Loss rate: 0.64%
```

Run 5: Report of TCP Vegas — Data Link

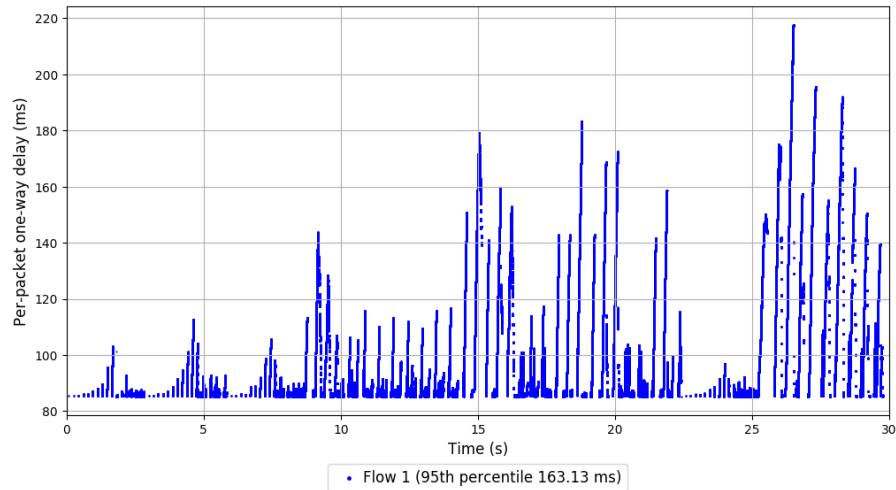
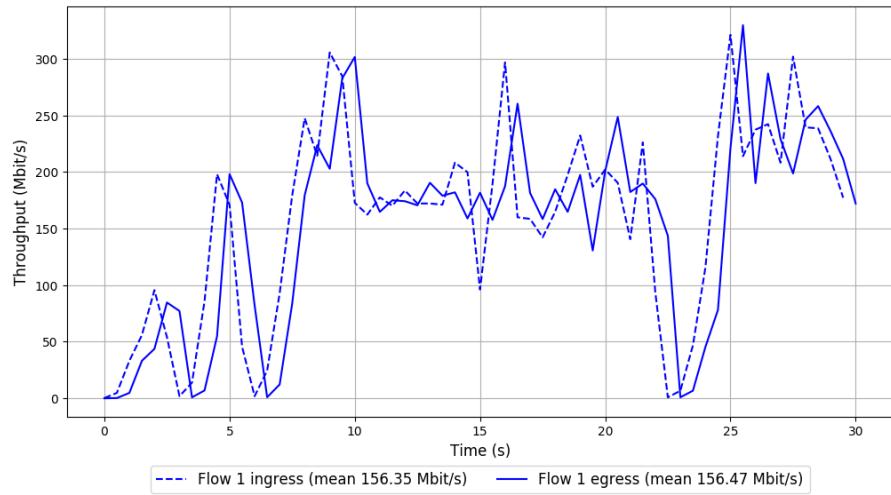


Run 1: Statistics of Verus

```
Start at: 2018-09-07 08:55:38
End at: 2018-09-07 08:56:08
Local clock offset: 35.091 ms
Remote clock offset: 34.154 ms

# Below is generated by plot.py at 2018-09-07 12:28:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 156.47 Mbit/s
95th percentile per-packet one-way delay: 163.130 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 156.47 Mbit/s
95th percentile per-packet one-way delay: 163.130 ms
Loss rate: 0.88%
```

Run 1: Report of Verus — Data Link

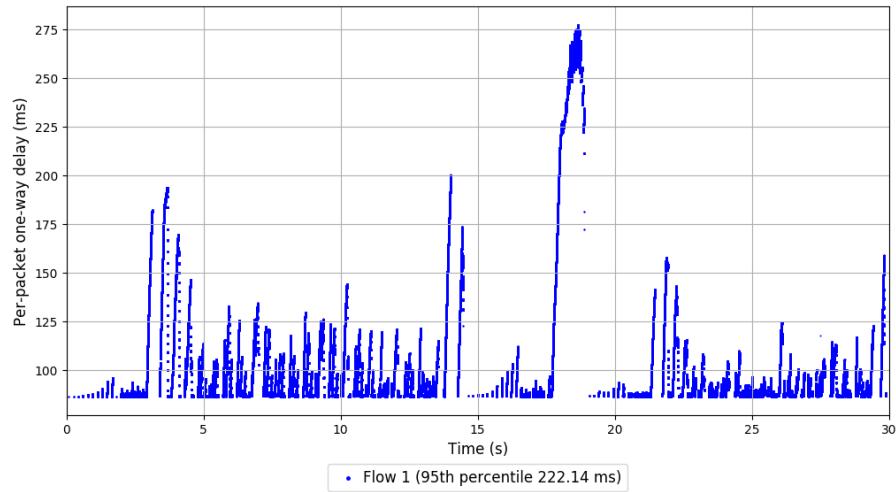
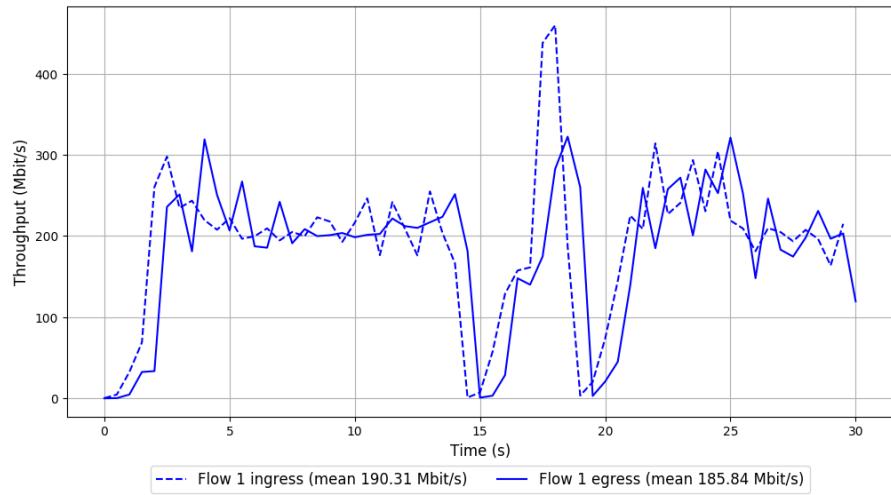


Run 2: Statistics of Verus

```
Start at: 2018-09-07 09:22:01
End at: 2018-09-07 09:22:31
Local clock offset: 9.214 ms
Remote clock offset: 15.02 ms

# Below is generated by plot.py at 2018-09-07 12:28:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 185.84 Mbit/s
95th percentile per-packet one-way delay: 222.139 ms
Loss rate: 2.91%
-- Flow 1:
Average throughput: 185.84 Mbit/s
95th percentile per-packet one-way delay: 222.139 ms
Loss rate: 2.91%
```

Run 2: Report of Verus — Data Link

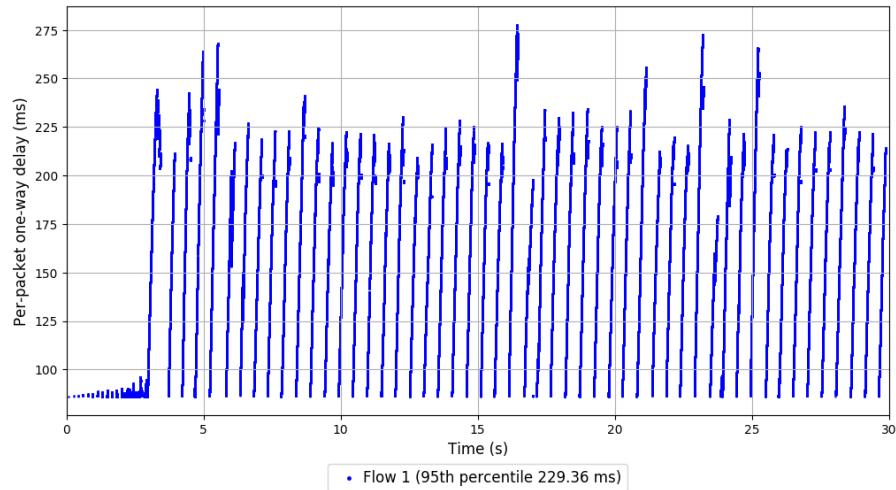
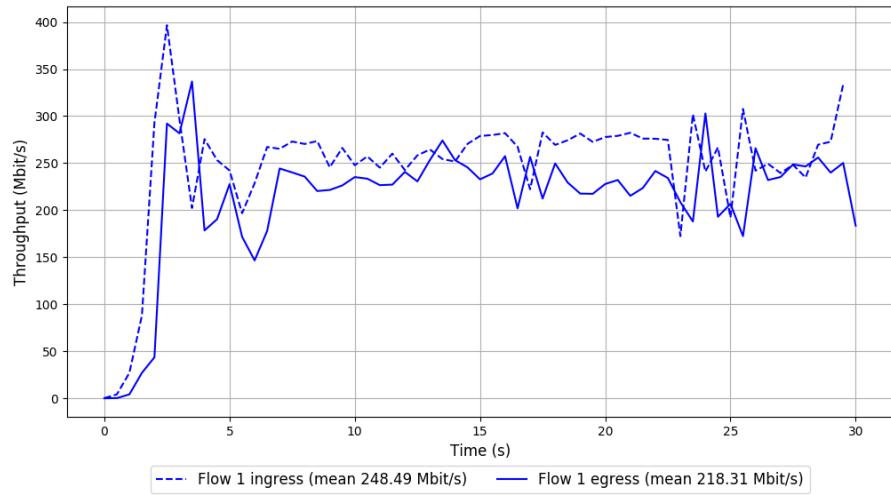


Run 3: Statistics of Verus

```
Start at: 2018-09-07 09:48:32
End at: 2018-09-07 09:49:02
Local clock offset: 3.901 ms
Remote clock offset: 7.533 ms

# Below is generated by plot.py at 2018-09-07 12:28:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 218.31 Mbit/s
95th percentile per-packet one-way delay: 229.363 ms
Loss rate: 12.52%
-- Flow 1:
Average throughput: 218.31 Mbit/s
95th percentile per-packet one-way delay: 229.363 ms
Loss rate: 12.52%
```

Run 3: Report of Verus — Data Link

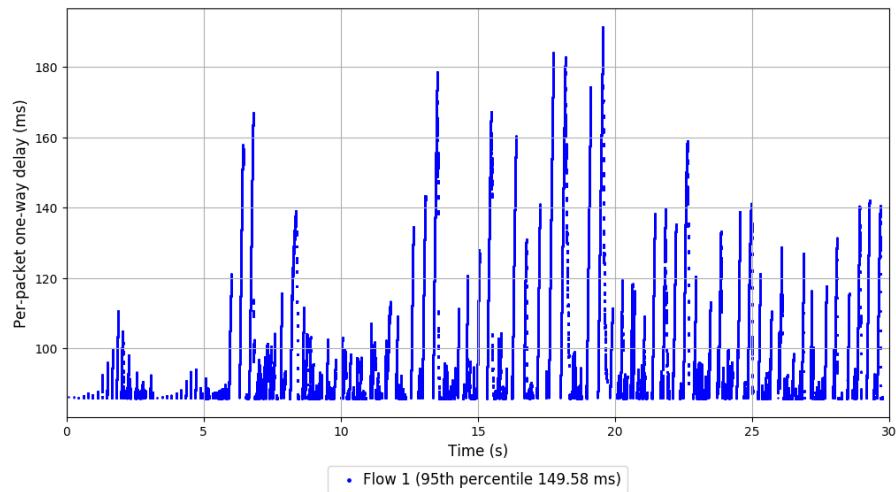
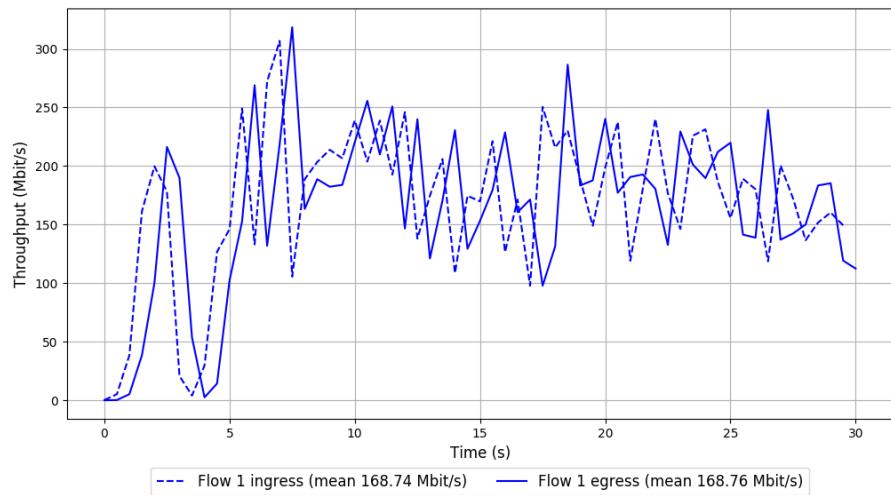


Run 4: Statistics of Verus

```
Start at: 2018-09-07 10:15:05
End at: 2018-09-07 10:15:35
Local clock offset: 2.436 ms
Remote clock offset: 5.271 ms

# Below is generated by plot.py at 2018-09-07 12:29:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 168.76 Mbit/s
95th percentile per-packet one-way delay: 149.579 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 168.76 Mbit/s
95th percentile per-packet one-way delay: 149.579 ms
Loss rate: 0.77%
```

Run 4: Report of Verus — Data Link

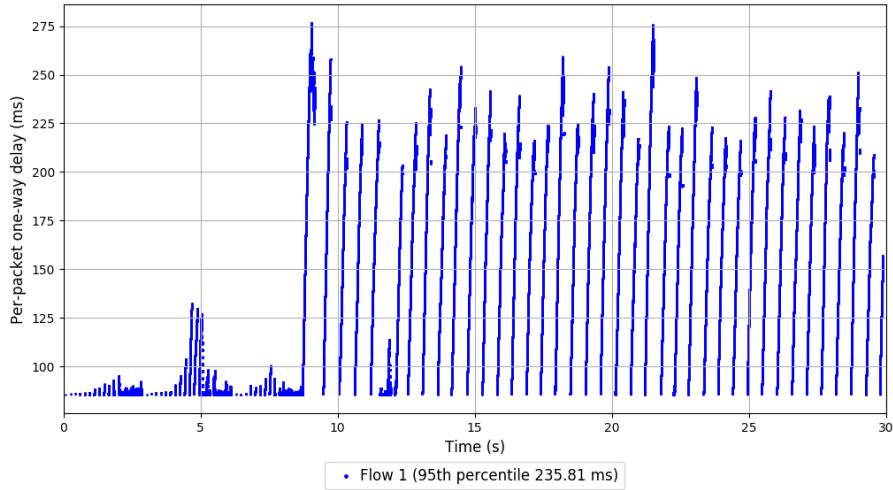
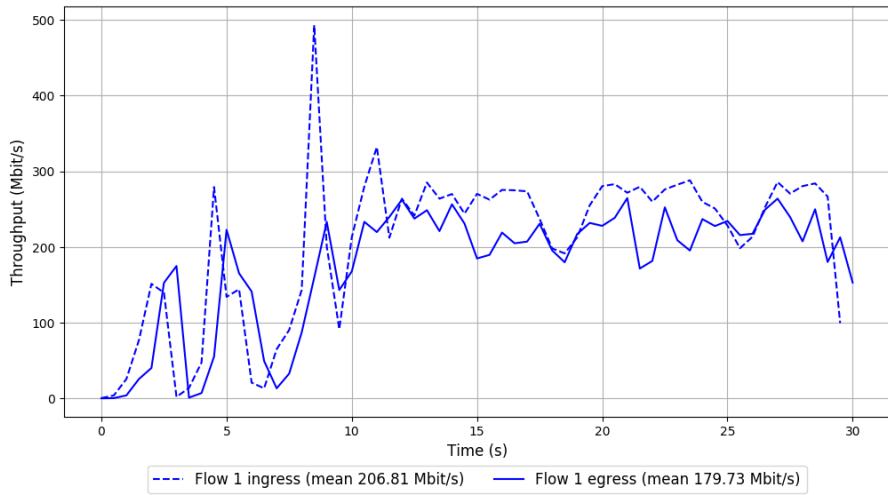


Run 5: Statistics of Verus

```
Start at: 2018-09-07 10:41:35
End at: 2018-09-07 10:42:05
Local clock offset: 1.865 ms
Remote clock offset: 4.389 ms

# Below is generated by plot.py at 2018-09-07 12:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 179.73 Mbit/s
95th percentile per-packet one-way delay: 235.810 ms
Loss rate: 12.92%
-- Flow 1:
Average throughput: 179.73 Mbit/s
95th percentile per-packet one-way delay: 235.810 ms
Loss rate: 12.92%
```

Run 5: Report of Verus — Data Link

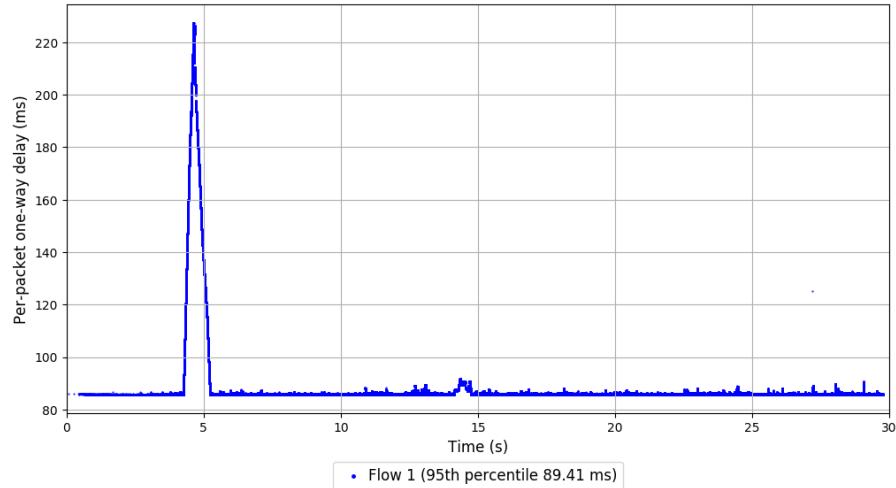
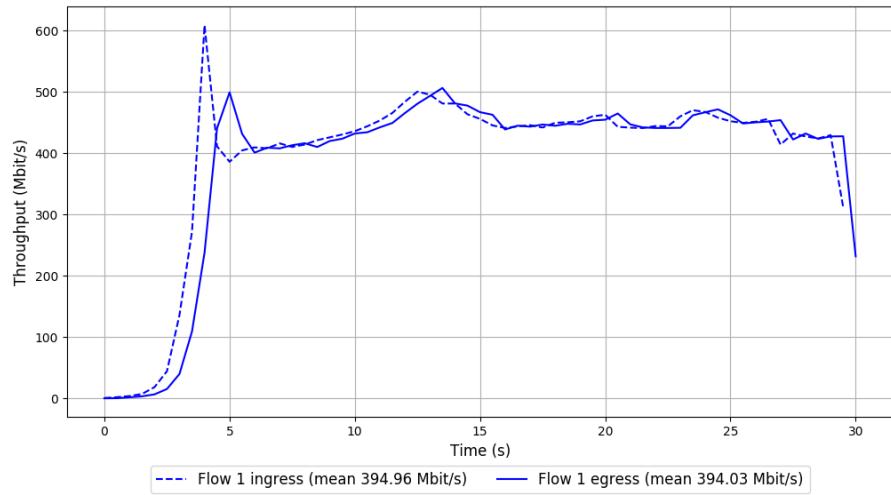


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-09-07 08:52:23
End at: 2018-09-07 08:52:53
Local clock offset: 31.937 ms
Remote clock offset: 30.638 ms

# Below is generated by plot.py at 2018-09-07 12:31:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 394.03 Mbit/s
95th percentile per-packet one-way delay: 89.413 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 394.03 Mbit/s
95th percentile per-packet one-way delay: 89.413 ms
Loss rate: 0.81%
```

Run 1: Report of PCC-Vivace — Data Link

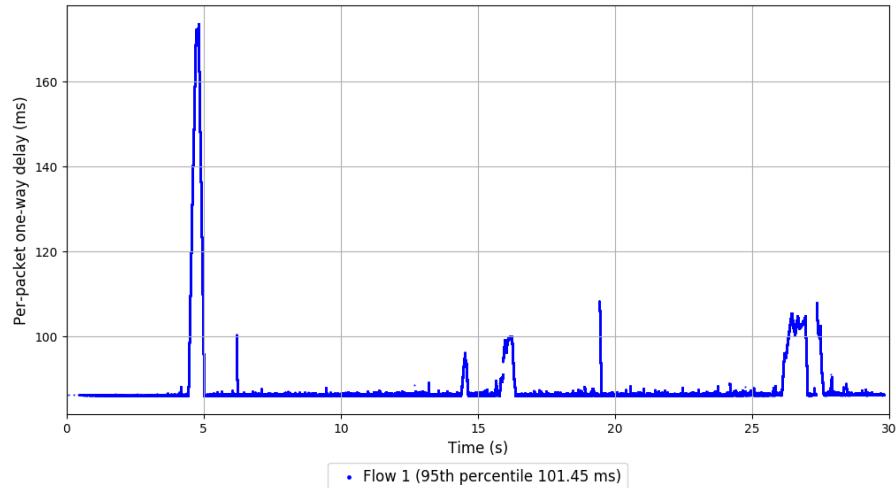
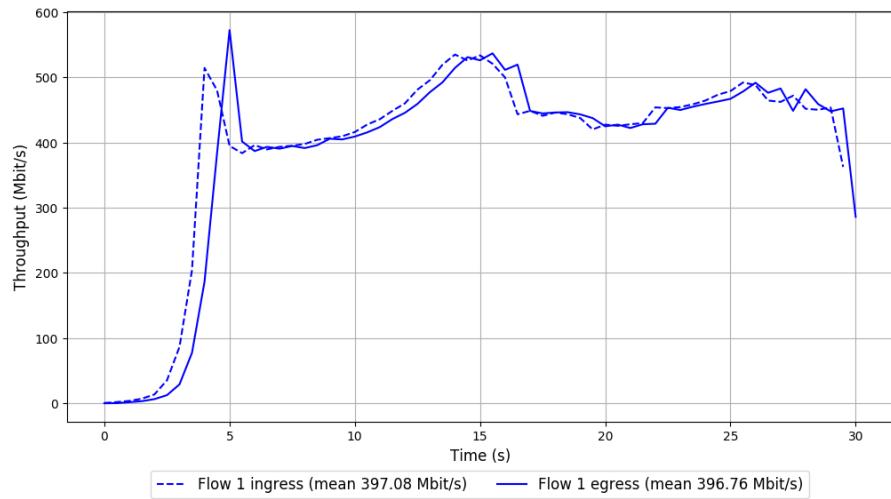


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-09-07 09:18:46
End at: 2018-09-07 09:19:16
Local clock offset: 9.763 ms
Remote clock offset: 14.667 ms

# Below is generated by plot.py at 2018-09-07 12:31:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 396.76 Mbit/s
95th percentile per-packet one-way delay: 101.446 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 396.76 Mbit/s
95th percentile per-packet one-way delay: 101.446 ms
Loss rate: 0.66%
```

Run 2: Report of PCC-Vivace — Data Link

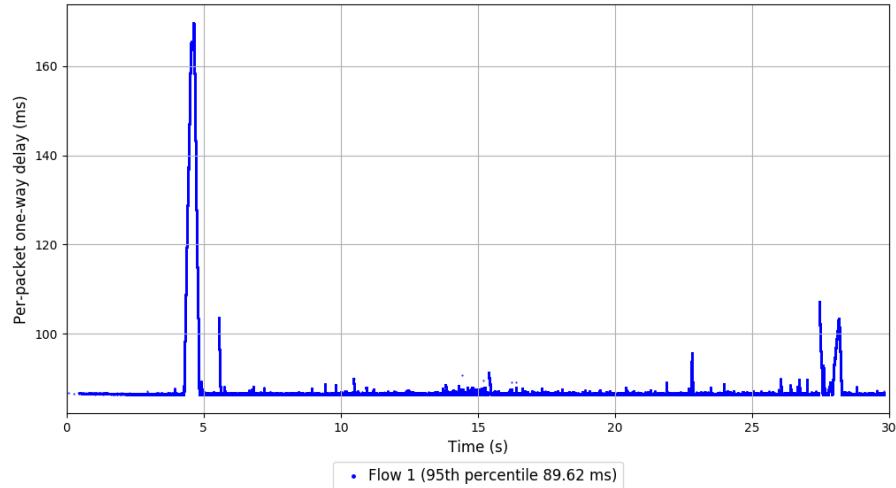
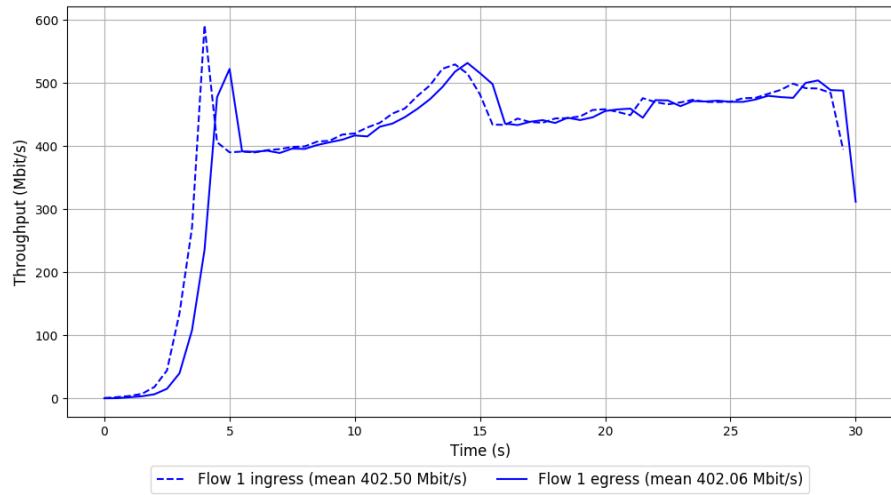


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-09-07 09:45:21
End at: 2018-09-07 09:45:51
Local clock offset: 4.384 ms
Remote clock offset: 8.344 ms

# Below is generated by plot.py at 2018-09-07 12:31:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 402.06 Mbit/s
95th percentile per-packet one-way delay: 89.620 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 402.06 Mbit/s
95th percentile per-packet one-way delay: 89.620 ms
Loss rate: 0.69%
```

Run 3: Report of PCC-Vivace — Data Link

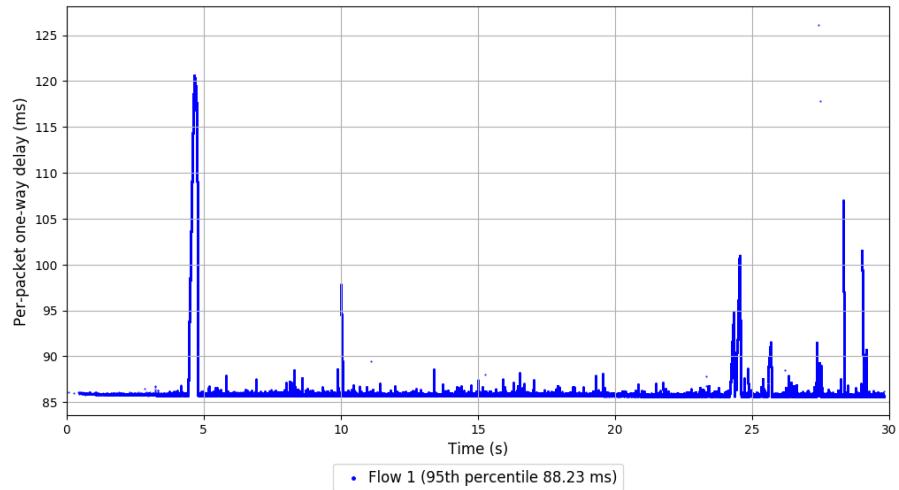
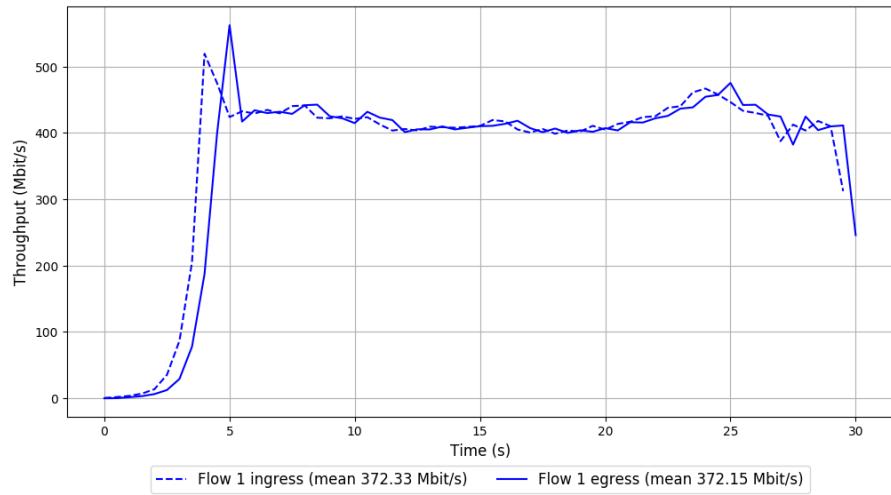


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-09-07 10:11:55
End at: 2018-09-07 10:12:25
Local clock offset: 3.096 ms
Remote clock offset: 6.83 ms

# Below is generated by plot.py at 2018-09-07 12:32:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 372.15 Mbit/s
95th percentile per-packet one-way delay: 88.235 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 372.15 Mbit/s
95th percentile per-packet one-way delay: 88.235 ms
Loss rate: 0.63%
```

Run 4: Report of PCC-Vivace — Data Link

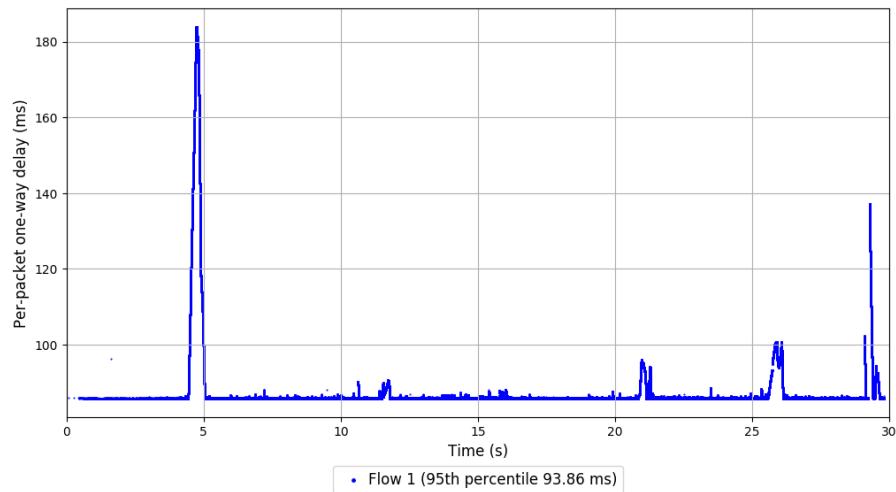
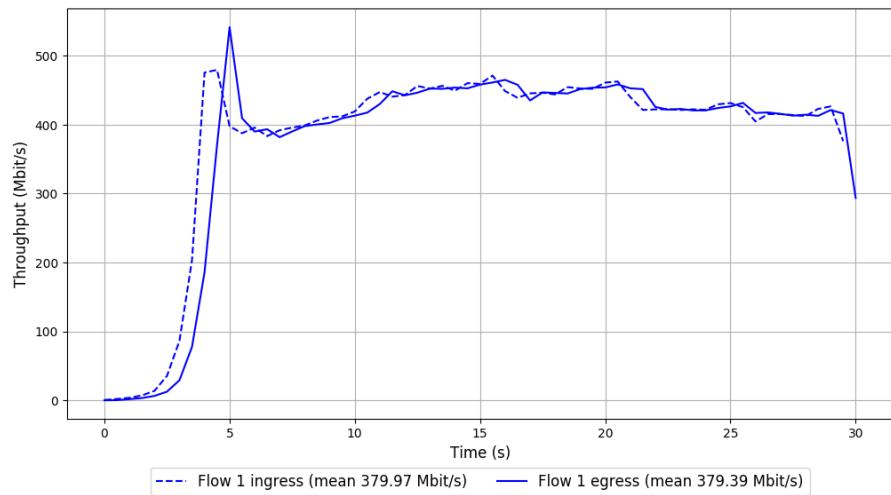


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-09-07 10:38:21
End at: 2018-09-07 10:38:51
Local clock offset: 1.926 ms
Remote clock offset: 4.082 ms

# Below is generated by plot.py at 2018-09-07 12:32:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 379.39 Mbit/s
95th percentile per-packet one-way delay: 93.857 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 379.39 Mbit/s
95th percentile per-packet one-way delay: 93.857 ms
Loss rate: 0.73%
```

Run 5: Report of PCC-Vivace — Data Link

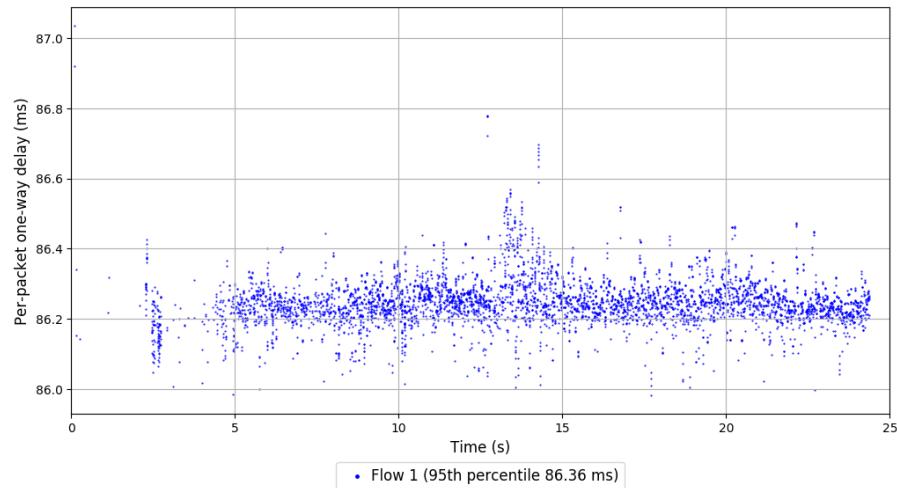
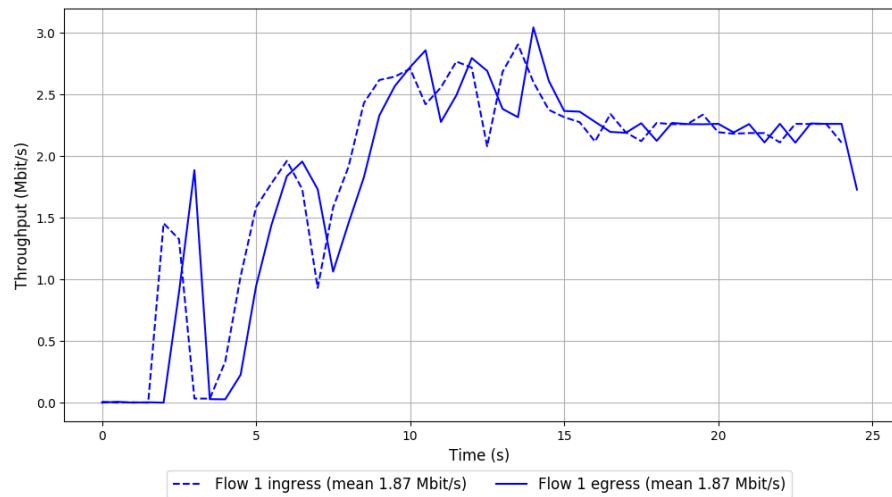


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-07 08:49:33
End at: 2018-09-07 08:50:03
Local clock offset: 29.07 ms
Remote clock offset: 27.945 ms

# Below is generated by plot.py at 2018-09-07 12:32:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 86.360 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 86.360 ms
Loss rate: 0.83%
```

Run 1: Report of WebRTC media — Data Link

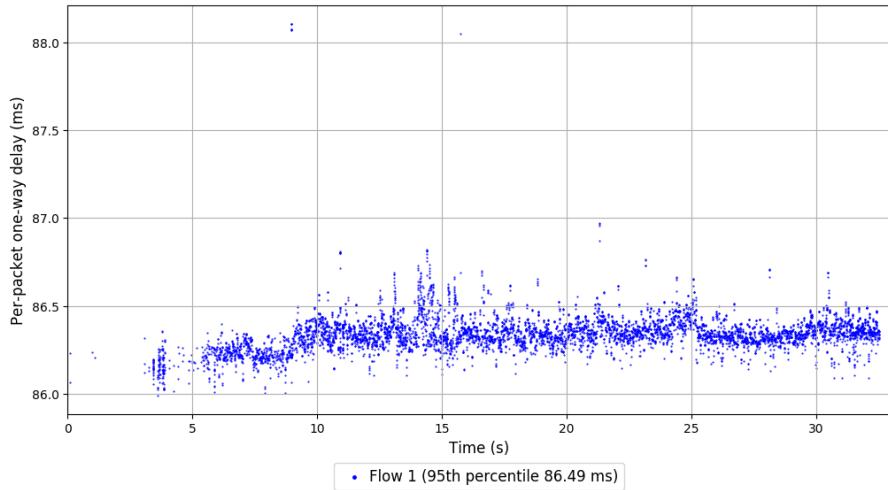
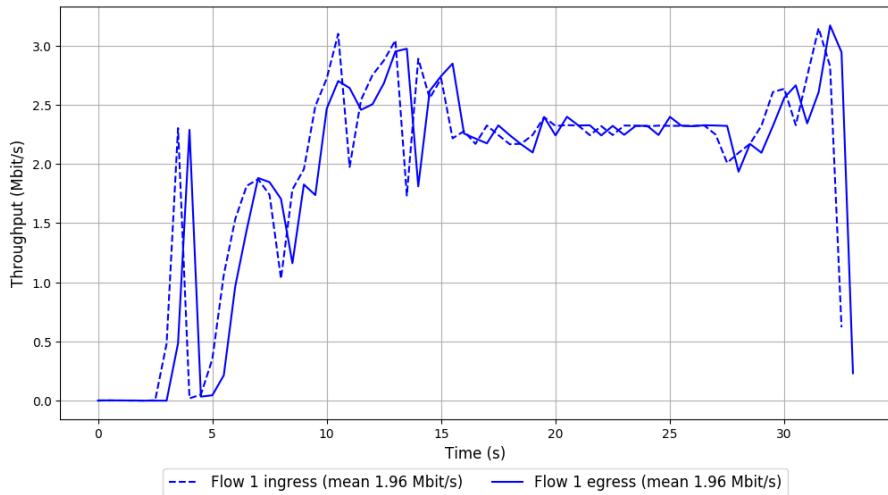


Run 2: Statistics of WebRTC media

```
Start at: 2018-09-07 09:15:53
End at: 2018-09-07 09:16:23
Local clock offset: 10.81 ms
Remote clock offset: 14.856 ms

# Below is generated by plot.py at 2018-09-07 12:32:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 86.492 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 86.492 ms
Loss rate: 0.61%
```

Run 2: Report of WebRTC media — Data Link

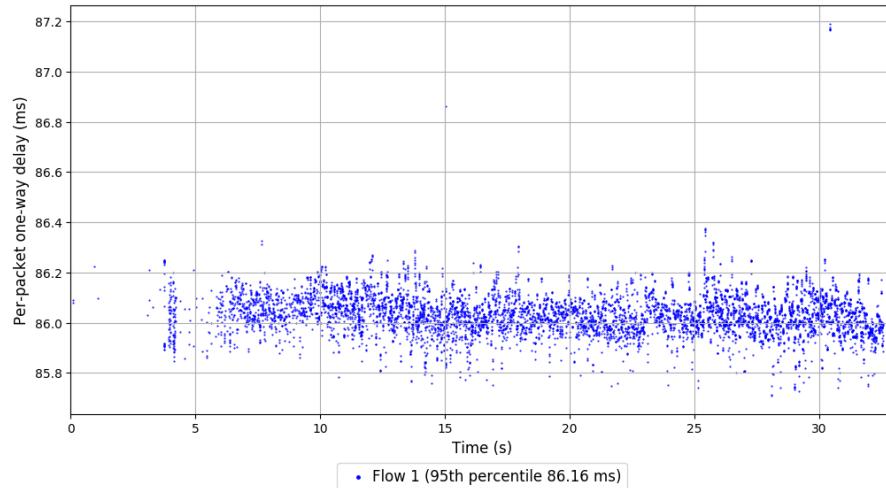
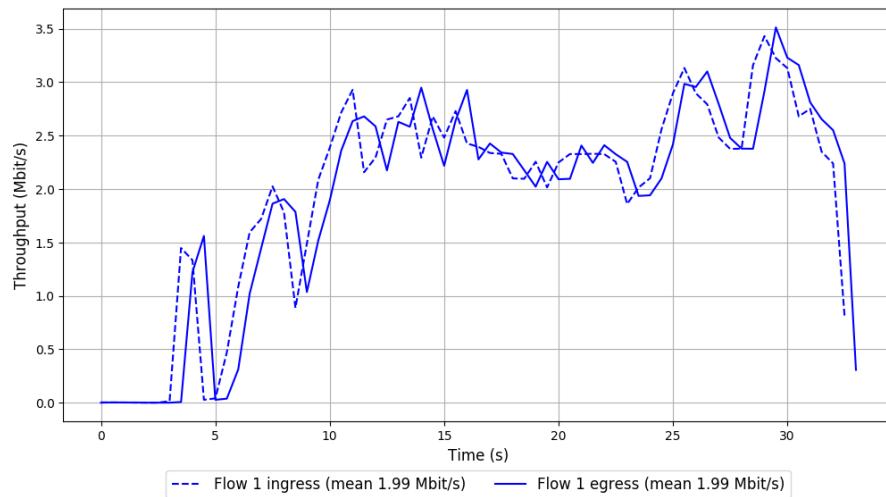


Run 3: Statistics of WebRTC media

```
Start at: 2018-09-07 09:42:30
End at: 2018-09-07 09:43:00
Local clock offset: 4.788 ms
Remote clock offset: 9.794 ms

# Below is generated by plot.py at 2018-09-07 12:32:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 86.161 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 86.161 ms
Loss rate: 0.63%
```

Run 3: Report of WebRTC media — Data Link

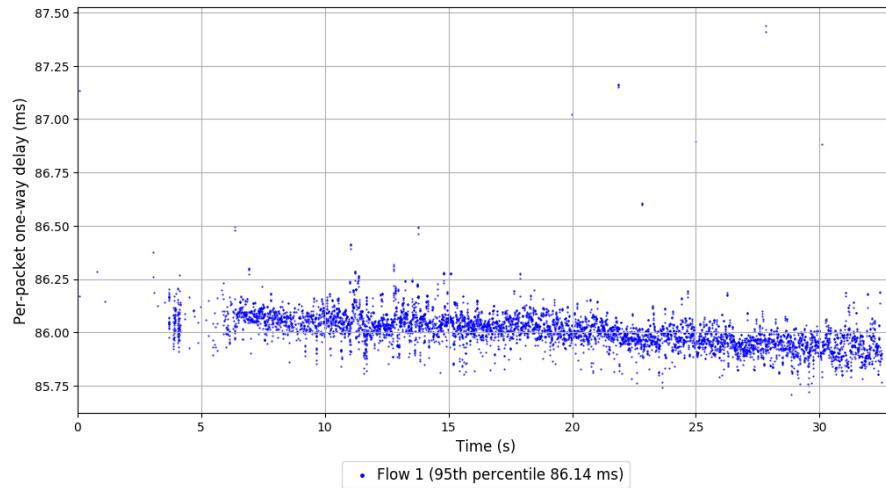
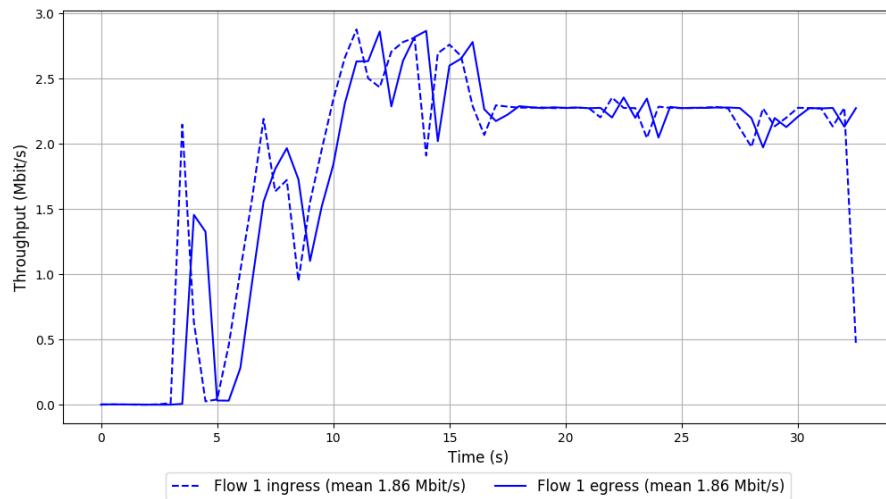


Run 4: Statistics of WebRTC media

```
Start at: 2018-09-07 10:09:02
End at: 2018-09-07 10:09:32
Local clock offset: 4.311 ms
Remote clock offset: 9.067 ms

# Below is generated by plot.py at 2018-09-07 12:32:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 86.136 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 86.136 ms
Loss rate: 0.69%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-09-07 10:35:30
End at: 2018-09-07 10:36:00
Local clock offset: 1.802 ms
Remote clock offset: 3.854 ms

# Below is generated by plot.py at 2018-09-07 12:32:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 86.199 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 86.199 ms
Loss rate: 0.63%
```

Run 5: Report of WebRTC media — Data Link

